U.S. DEPARTMENT OF COMMERCE
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PB-277 442

Air Pollution: Assessment Methodology and Modeling. Bibliography of Grey Literature on Air Quality Modeling (GAUSSian Plume Models)

NATO Committee on the Challenges of Modern Society

Oct 77

PB 277 442

NATO CDSM

OTAN CCMS

COMMITTEE ON
THE CHALLENGES OF
MODERN SOCIETY

AIR POLLUTION
ASSESSMENT METHODOLOGY
and
MODELING

Number 70

Bibliography of Grey Literature on Air Quality Modeling

REPRODUCED BY
NATIONAL TECHNICAL
INFORMATION SERVICE
U. S. DEPARTMENT OF COMMERCE
SPRINGFIELD, VA. 22161

NORTH ATLANTIC TREATY ORGANIZATION

TECHNICAL REPORT DATA
(Please read Instructions on the reverse before completing)
PB277442

1. REPORT NO.	2.	3. RECIPIENT'S ACCESSION NO.
4. TITLE AND SUBTITLE Air Pollution Assessment Methodology and Modeling - Bibliography of Grey Literature on Air Quality Modeling		5. REPORT DATE 6. PERFORMING ORGANIZATION CODE
7. AUTHOR(S)		8. PERFORMING ORGANIZATION REPORT NO.
9. PERFORMING ORGANIZATION NAME AND ADDRESS Modeling Panel		10. PROGRAM ELEMENT NO. 11. CONTRACT/GRANT NO.
12. SPONSORING AGENCY NAME AND ADDRESS NATO Committee on the Challenges of Modern Society		13. TYPE OF REPORT AND PERIOD COVERED 14. SPONSORING AGENCY CODE

15. SUPPLEMENTARY NOTES

16. ABSTRACT

From the results of the NATO/CCMS Pilot Study Air Pollution fifteen recommendations have been derived, one of which deals with air quality modeling. Since the publication of this recommendation, a world-wide cooperation in the field of modeling activities has proved the necessity to review the state of the art of air quality modeling and to show international trends in model standardization. Therefore the Modeling Panel decided to prepare a Technical Document of this so-called "Grey Literature" and started questionnaire action.. Response was so impressive, that the Modeling Panel decided to split this document into two parts: (1) Bibliography of Grey Literature on Applied Air Quality Models (especially GAUSSian Plume Models); and (2) Bibliography of Grey Literature on New Modeling Techniques. This volume represents the final version of the part concerning GAUSSian plume models.

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group

18. DISTRIBUTION STATEMENT	19. SECURITY CLASS *(This Report)*	21. NO. OF PAGES 185
	20. SECURITY CLASS *(This page)*	22. PRICE PCA09 MFA01

EPA Form 2220-1 (9-73)

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NATO/CCMS
Air Pollution Pilot Study
Assessment Methodology and Modeling

MODELING PANEL

Bibliography of Grey Literature on Air Quality Modeling
(GAUSSian Plume Models)

COMMITTEE ON THE CHALLENGES OF MODERN SOCIETY
NORTH ATLANTIC TREATY ORGANIZATION
October 1977

3<

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Index according to authors	
Index according to year of publication	

Bibliography of Grey Literature on
Air Quality Modeling
(GAUSSian Models)

Introduction

From the results of the NATO/CCMS Pilot Study Air Pollution fifteen recommendations have been derived, one of which, dealing with air quality modeling, shall be repeated at this place:

Recommendation XIV:

"Member nations agree that the CCMS modeling activity has shown that there is a widespread need for further international cooperation to accomplish the following tasks:

- To continue to bring together developers and air quality managers for exchange of ideas, discussion of users' need, and demonstration of modeling techniques.
- Standardize modeling techniques for specific air quality management applications and consider how computerized models might be made available for all users.
- Continue to review on-going air quality assessment studies."

Since the publication of this recommendation a world-wide cooperation in the field of modeling activities has proved the necessity to review the state of the art of air quality modeling and to show international trends in model standardization.

An important point to fulfil the first task seems to be the registration and documentation of all those papers and reports which have not yet been published in generally available journals.

Therefore, the Modeling Panel decided to prepare a Technical Document of this so-called "Grey Literature" and started questionnaire action. After some initial difficulties the response was so impressive, that the Modeling Panel in its 4th Meeting, September 13 - 15, 1976, decided to split this document into two parts:

(1) Bibliography of Grey Literature on Applied Air Quality Models (especially GAUSSian Plume Models),

(2) Bibliography of Grey Literature on New Modeling Techniques.

Here, the final version of the part concerning GAUSSian plume models is presented.

Idea, advantages and limits of structuring with descriptors

The user of this compilation of grey literature on diffusion modeling shall be informed about aims, methods and results of a paper by being given a short summary added into the report data sheet.

The structuring of the grey literature is done using a limited number of descriptors. The intention is to find - possibly with the aid of data processing methods - the relevant publications dealing with defined subjects of interest. The key shall firstly be the list of all possible descriptors.

The descriptors corresponding to a report cannot replace the function of an abstract, however. This compilation shall be extendable. Therefore, the list of descriptors may be expanded or a descriptor may be subdivided, if necessary. Because of the finite descriptor system it is not narrow enough to allow for a certain type of summary reviewing contents or approaches described in the publication.

This lack of information is to be seen - especially in the present case - under the aspect of determining the corresponding descriptors from the abstracts or summaries without knowledge of the publications themselves. The summaries of a lot of papers of the present grey literature had to be recognised as insufficient. The further discussion shall allow, firstly, some corrections of the existing report data sheets and, secondly a more descriptive abstract for further publications to be prepared for the grey literature survey.

Present status of the descriptors' list

The presently available list of descriptors is given as appendix. A hierarchical compilation proved to be very useful. Descriptors were defined for 12 main groups of subjects, for subgroups, and for the subjects themselves. This hierarchy is represented by a decade classification using five figures - a preceding "0" is not printed in the entries - as illustrated by the following example (e.g. entry no. 720007):

```
DESCRIPTORS

  1007 MODEL TYPE
  1015 GAUSSIAN MODEL
  2038 NITROGEN OXIDES
  4073 FUNDAMENTAL (RESEARCH, DEVELOPMENT)
  8125 LINE SOURCE
 10014 VALIDATION
  ││││
  │││└──── figure for check purposes only,
  ││└───── figure marking a special descriptor not to be
  ││       subdivided further,
  │└────── figure indicating a subgroup+), even in those
  │        cases where a more detailled description is to
  │        be expected,
  └─────── figure concerning the main groups.
```

It is to be seen that a further step of this compilation procedure can serve to complete the descriptors' list within the main groups or subgroups. For instance there is a possibility to define which kinds of advantages are to be named within the descriptor "1110 - advantages".

Marking a publication with a main group (e.g. 0100 - model type) or a subgroup descriptor (e.g. 1110 - advantages) means that a paper deals with the problem defined by the descriptor without referring to the contents of the information. It may also be a marking for data processing purposes, only.

+) with the exception of descriptor "0210 - Inert Gases"

7<

If, for instance, publications on new models shall be marked with more definite descriptors the papers with a descriptor "0100 - model type" have to be looked for, only.

Disposition of the descriptors

The descriptors are given following the criteria:

a) Does the paper survey a special result of a subject represented by a descriptor, e.g. determination of diffusion parameters, turbulence classes or plume rise.?

b) Does the paper contain aspects on dispersion as e.g. wash out, chemical changes.

Asking like a) means contributions "determination of ...", asking like b) means "with consideration of ...".?

The disposition of descriptors within this compilation was performed on the basis of the available abstracts insofar as the subjects were mentioned explicitely or were to be expected being dealt with in the paper. Trivial conclusions were not considered: in general it was not necessary to mark a descriptor "0822 - stationary source" in addition to "0302 - urban" except the paper dealt with special aspects following criteria a) or b).

A special remark seems necessary for the group "0400 - application". The majority of papers can be described as "0407 - fundamental (research and development)" even those dealing with the application of results within "0401 - licensing procedure", "0402 - stack height determination" or anything else. Some other publications, however, may discuss possibilities and methods applicable for licensing procedures in general. In these cases the application is of larger importance than research and development and the description "0401 - licensing procedure" seems to be justified.

The disposition "1001 - validation" or "1002 - calibration" was performed without an absolute necessity for the authors of the paper having accomplished own measurements and experiments. A comparison of results with measurements or experiments cited in the paper was sufficient.

0100 Model Type	0200 Compounds	0300 Scale	0400 Application	0500 Parameters, Model Characteristics	0600 Transformation and Removal Processes
0101 Gaussian	0201 Sulfur Dioxide	0301 Local	0401 Licensing Procedure	0501 Dispersion Parameters	0610 Chemical Transformations
0102 Box	0202 Carbon Monoxide	0302 Urban			
0103 Grid	0203 Nitrogen Oxides	0303 Regional	0402 Stack Height Determination	0502 Turbulence Classes	0620 Physical Transformations
0104 Lagrangian	0204 Organic Gases	0304 Long Distance	0403 Cause Analysis	0503 Plume Rise	0621 Sedimentation Fall Out
	0205 Fluor Compounds		0404 Scheduling of Measurements	0504 Topography	
0105 Analytical	0206 Particles			0505 Roughness of Ground	0622 Wash Out
0106 Statistical	0207 Oxidants		0405 In Addition to Measurements		0623 Adsorption
0110 Other	0208 Water Vapour			0506 Low Wind Speed	0624 Radioactive Decay
	0209 Radioactive Compounds		0406 Epidemiologics		
			0407 Fundamental (Research, Devel.)	0507 Mixing Height/Inversion ~	0630 Phase Transitions
	0210 Inert Gases				
	0211 Heavy Gases				
			0408 Urban and Regional Planning		
			0409 Suppl. Control	0510 (to be defined)	

0700 Sensitivity Analysis	0800 Model Input	0900 Model Output	1000 Field Experiments	1100 Qualifications	1200 Documentation
0710 Occasional Variation of Parameters	0810 Source Dimension	0910 Short Term	1001 Validation	1110 Advantages	1201 Program Description
0720 Systematical Variation of Parameters	0811 Point Source	0911 Mean Values	1002 Calibration	1120 Limits of Applicability	1202 Program Listing
	0812 Line Source	0912 Max. Values	1003 Parameter Determination		
	0813 Area Source	0913 Real Time	1004 Others		
	0814 Volume Source	0920 Long Term			
	0820 Source Type	0921 Concentration Field			
	0821 Mobile Source	0922 Frequency Distributions			
	0822 Stationary Source	0923 Characteristic Values			
	0830 Source Time Dependence				
	0831 Discontinuous Source				
	0832 Contin. Source				
	0840 Meteorological Statistics				
	0841 1-dimensional				
	0842 2-dimensional				
	0843 3-dimensional				
	0850 Wind Variance				
	0851 with Height				
	0852 with Distance				

11<

ENTRY NO. 010001

AVAILABLE FROM
ELECTROBEL, BRUSSEL, BELGIUM

INSTITUTION
SCK/CEN
B-2400 MOL, BELGIUM

TITLE OF PAPER
ESTIMATION DES CONCENTRATIONS EN SO2 DANS LE VOISINAGE DE LA CENTRALE ELECTRIQUE DE SETUBAL (PORTUGAL)

LANGUAGE FRENCH

REPORT NO. NO. OF PAGES DATE OF PUBLICATION 01- -

NUMBER OF AUTHORS . MATH. MODELLING . GROUP OF SCK/CEN

DESCRIPTORS

1015	GAUSSIAN MODEL
2011	SULFUR DIOXIDE
3018	LOCAL
4022	STACK HEIGHT DETERMINATION
5045	TOPOGRAPHY
8117	POINT SOURCE
8222	STATIONARY SOURCE
9237	CHARACTERISTIC VALUES

REMARKS/ABSTRACT

IMPACT OF POWER PLANT UPON SO2-LEVELS AS FUNCTION OF CHIMNEY HEIGHT. TPDM APPLIED ESTIMATING SO2-PATTERNS IN ENVIRONS OF SETUBAL POWER STATION. INPUT DATA WERE: GEOMETRICAL STACK HEIGHT: 150, 175 & 200M; METEOR. DATA: AVAILABLE LOCAL RECORDS OF 74; LOCAL OROGRAPHY. OUTPUT DATA PRESENTED IN GRID POINTS WITH MESH WIDTH OF 750M & RESTRICTED TO HOURLY & 24-HOURLY AVERAGES. MAX. VALUES, 50- & 95-PERCENTILES

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ENTRY NO. 680001

AVAILABLE FROM
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INSTITUTION
INSTITUT FUER THEORETISCHE METEOROLOGIE FREIE UNIVERSITAET BERLIN
THIELALLEE 49 D-1000 BERLIN 33

TITLE OF PAPER

DIFFUSIONSMODELLEN AUF DEM GEBIET DER LUFTREINHALTUNG

LANGUAGE GERMAN

REPORT NO. NO. OF PAGES DATE OF PUBLICATION 68- -

NUMBER OF AUTHORS 1 H. FORTAK

DESCRIPTORS

1007 MODEL TYPE
3026 URBAN
4022 STACK HEIGHT DETERMINATION
4073 FUNDAMENTAL (RESEARCH, DEVELOPMENT)
8435 3-DIMENSIONAL METEOROLOGICAL STATISTICS
9105 SHORT TERM
9237 CHARACTERISTIC VALUES
11100 ADVANTAGES

REMARKS/ABSTRACT

MATH.-METEOR. DIFFUSION MODELS IMPORTANT AND ECONOMIC MEANS TO SOLVE URBAN POLLUTION PROBLEMS. THIS IS DEMONSTRATED BY FOLLOWING MAIN PROBLEMS: SHORT-RANGE FORECASTS, AIR POLLUTION CLIMATOLOGY, MINIMUM STACK HEIGHT. MODELS MAY SOLVE THESE BY CONTROL CIRCUIT WITHIN AN ELECTRONIC COMPUTER MOST ECONOMICALLY. AS AN EXAMPLE COMPUTATION OF AIR POLLUTION CLIMATOLOGY OF BREMEN DISCUSSED

ENTRY NO. 690001

AVAILABLE FROM
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INSTITUTION
INSTITUT FUER THEORETISCHE METEOROLOGIE FREIE UNIVERSITAET BERLIN
THIELALLEE 49 D-1000 BERLIN 33

TITLE OF PAPER
BODENIMMISSIONSVERTEILUNGEN IM LEE EINES SCHORNSTEINS FUER DEN FALL
BELIEBIGER FORMEN DER RAUCHFAHNENACHSE

LANGUAGE GERMAN

REPORT NO. NO. OF PAGES DATE OF PUBLICATION 69- -

NUMBER OF AUTHORS 1 H. FORTAK

DESCRIPTORS

1015	GAUSSIAN MODEL
3018	LOCAL
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
5037	PLUME RISE
5045	TOPOGRAPHY
5061	LOW WIND SPEED
5070	MIXING HEIGHT / INVERSION HEIGHT
8117	POINT SOURCE
8222	STATIONARY SOURCE
8311	DISCONTINUOUS SOURCE
9105	SHORT TERM

REMARKS/ABSTRACT

FROM DETAILED DISCUSSION OF CONVENTIONAL MODEL FOR TURBULENT DIFFUSION OF POLLUTANTS FROM ISOLATED STATIONARY SOURCE FORMULAE ARE DERIVED WHICH ALLOW FOR ARBITRARY SHAPES OF PLUME AXIS. DIFFUSION IS ASSUMED TO BE CONFINED TO A LAYER OF LOWER ATMOSPHERE. A 3-DIMENSIONAL GENERALIZATION LEADS TO THE POSSIBILITY TO TREAT EVEN THE CASE OF CALM CONDITIONS. TIME-DEPENDENT EMISSIONS UNDER GENERAL CONDITION

ENTRY NO. 690002

AVAILABLE FROM
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INSTITUTION
INST. THEOR. METEOR. FREIE UNIVERS. THIELALLEE 49 D-1000 BERLIN 33
NAT. AIR POLL. CONTR. ADMIN, ENVIR. SCIENCES SERV. ADMINISTRAT. USA

TITLE OF PAPER
METEOROLOGIE DER LUFTBEIMENGUNGEN
(AIR POLLUTION METEOROLOGY)

LANGUAGE GERMAN

REPORT NO. NO. OF PAGES DATE OF PUBLICATION 69- -

NUMBER OF AUTHORS 2 R. MCCORMICK B. GUTSCHE

DESCRIPTORS

1007	MODEL TYPE
1015	GAUSSIAN MODEL
3018	LOCAL
3026	URBAN
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
5010	DISPERSION PARAMETERS
5029	TURBULENCE CLASSES
5037	PLUME RISE
5070	MIXING HEIGHT / INVERSION HEIGHT
9202	LONG TERM

REMARKS/ABSTRACT

A FIRST SYNOPSIS OF TOPICS IN AIR POLLUTION METEOROLOGY IS PRESENTED COVERING THE FIELD OF AIR POLLUTION CYCLES, ATMOSPHERIC TURBULENCE & PLANETARY BOUNDARY LAYER, ATMOSPHERIC DISPERSION AND PLUME BEHAVIOR, MATHEMATICAL TREATMENT OF DISPERSION PROCESSES, MULTIPLE-SOURCE URBAN DIFFUSION MODELS, URBAN MIXING LAYER, FORECASTING AIR POLLUTION POTENTIAL, ATMOSPHERIC TURBIDITY. EMPHASIS ON MULTIPLE-SOURCE MODELS

ENTRY NO. 700001

AVAILABLE FROM
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INSTITUTION
INSTITUT D'ASTRONOMIE ET DE GEOPHYSIQUE UNIVERSITE CATHOLIQUE DE LOUVAIN CHEMIN DU CYCLOTRON 2 B-1348 LOUVAIN-LA-NEUVE

TITLE OF PAPER
POLLUTION ATMOSPHERIQUE ET PROBLEME DE LA DIFFUSION

LANGUAGE FRENCH

REPORT NO. IAG CONTRIBUT. NO.7 NO. OF PAGES DATE OF PUBLICATION 70-01-

NUMBER OF AUTHORS 1 A. BERGER

DESCRIPTORS

1007 MODEL TYPE
3018 LOCAL
4073 FUNDAMENTAL (RESEARCH, DEVELOPMENT)
8117 POINT SOURCE
8222 STATIONARY SOURCE
8320 CONTINUOUS SOURCE
9237 CHARACTERISTIC VALUES

REMARKS/ABSTRACT

ROBERT'S SOLUTION OF THE PARABOLIC EQUATION OF STATIONARY NON-ISOTROPIC FICKIAN DIFFUSION HAS BEEN NORMALIZED. DISTRIBUTION OF NORMALIZED CONCENTRATION ON GROUND FOR AN ELEVATED CONTINUOUS POINT SOURCE IS CALCULATED & GRAPHICALLY REPRESENTATED. AS AN ILLUSTRATION A MEAN ANNUAL CONCENTRATION FOR AN AXIAL DIFFUSION HAS BEEN SUPERPOSED UPON A WIND ROSE FOR BOTH MEAN & LIGHT WINDS.

ENTRY NO. 700002

AVAILABLE FROM
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INSTITUTION
CHEMICAL LABORATORY RVO-TNO
LANGE KLEIWEG 137 POSTBUS 45 NL-RIJSWIJK (ZH)

TITLE OF PAPER
AN EXPERIMENTAL INVESTIGATION OF SHORT RANGE TURBULENT DIFFUSION IN THE ATMOSPHERE

LANGUAGE ENGLISH

REPORT NO. CH.LAB.TNO 1970-18 NO. OF PAGES DATE OF PUBLICATION 70-04-

NUMBER OF AUTHORS 1 C. VAN BUIJTENEN

DESCRIPTORS

1015	GAUSSIAN MODEL
3018	LOCAL
8117	POINT SOURCE
8222	STATIONARY SOURCE
8311	DISCONTINUOUS SOURCE
8320	CONTINUOUS SOURCE
10014	VALIDATION

REMARKS/ABSTRACT

REPORT OF ABOUT 100 DIFFUSION EXPERIMENTS EACH COMPRISING INSTANTANEOUS & CONTINUOUS RELEASE. DATA STATISTICALLY ANALYSED WITH RESPECT TO PREDICTABILITY OF DOSAGES OR CONCENTRATIONS. 2 NEW MATHEMATICAL MODELS: NUMERICAL MODEL FOR CONTINUOUS, STATISTICAL MODEL FOR INSTANTANEOUS RELEASES. COMPARISON WITH THE DATA SHOWS THAT THE MODELS GIVE GOOD DESCRIPTION OF TURBULENT DIFFUSION OVER INVESTIGATED RANGE

ENTRY NO. 700003

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INSTITUTION
S.C.K./C.E.N.
B-2400 MOL BELGIUM

TITLE OF PAPER
ATMOSPHERIC DILUTION FACTORS AND CALCULATION OF DOSES IN THE ENVIRONMENT OF SCK/CEN MOL FOR SHORT AND LONG DURATION STACK DISCHARGES

LANGUAGE ENGLISH

REPORT NO. BLG 446 NO. OF PAGES DATE OF PUBLICATION 70-06-

NUMBER OF AUTHORS 4 H. BULTYNCK L. MALET

DESCRIPTORS

2097 RADIOACTIVE COMPOUNDS
3018 LOCAL
4073 FUNDAMENTAL (RESEARCH, DEVELOPMENT)
5029 TURBULENCE CLASSES
6211 SEDIMENTATION / FALL OUT
6220 WASH OUT
6238 ADSORPTION
8311 DISCONTINUOUS SOURCE
8320 CONTINUOUS SOURCE
9105 SHORT TERM
9203 LONG TERM

REMARKS/ABSTRACT

DISCHARGES OF NUCLEAR ESTABLISHMENT OF MOL/ 7 CATEGORIES OF ATMOSPHERIC STABILITY/ SEPARATE APPROACH FOR CASE OF FUMIGATION/ CORRECTION FACTORS ALLOW FOR SETTLING. DRY DEPOSITION AND WASH-OUT/ A MATHEMATICAL MODEL IS DEVELOPED TO TREAT PROBLEM OF CONTAMINATION OF ATMOSPHERE AND OF THE SURFACE. FREQUENCY OF THE ATMOSPHERIC STABILITY CATEGORIES DETERMINED FROM METEOROLOGICAL OBSERVATIONS 1966-1968

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800 FOLLIN LANE, S.E. VIENNA, VIRGINIA 22180 USA

TITLE OF PAPER
CONTRIBUTION OF MORGANTOWN POWER PLANT EMISSION TO AMBIENT POLLUTANT CONCENTRATIONS (SO2 AND PARTICULATES)

LANGUAGE ENGLISH

REPORT NO. 96266755 NO. OF PAGES DATE OF PUBLICATION 70-02-13

NUMBER OF AUTHORS 1 F. HAMBURG

DESCRIPTORS

1015 GAUSSIAN MODEL
2011 SULFUR DIOXIDE
2062 PARTICLES
3018 LOCAL
4014 LICENSING PROCEDURE
8435 3-DIMENSIONAL METEOROLOGICAL STATISTICS
9113 MEAN VALUES
9229 FREQUENCY DISTRIBUTIONS
9237 CHARACTERISTIC VALUES

REMARKS/ABSTRACT

DETERMINATION OF THE PROBABLE EFFECTS OF ALTERNATIVE FUEL COMBINATIONS OF COAL AND OIL AT SEVERAL AVAILABLE SULFUR CONTENTS ON AIR POLLUTION IMPACT OF THE PEPCO POWER PLANT STATION AT MORGANTOWN, MD. PREDICTION OF ANNUAL AVERAGE CONCENTRATIONS BY AGDM. INPUT FREQUENCY DISTRIBUTION OF 480 COMBINATIONS OF WIND DIRECTION, WIND SPEED AND STABILITY. SHORT TERM AVERAGE CONCENTRATIONS BY A LARSEN MODEL

ENTRY NO. 700007

AVAILABLE FROM
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INSTITUTION
U.S. ENVIRONMENTAL PROTECTION AGENCY
RESEARCH TRIANGLE PARK, N.C. 27711 USA

TITLE OF PAPER
WORKBOOK ON ATMOSPHERIC DIFFUSION ESTIMATES

LANGUAGE ENGLISH

REPORT NO. PHS-PUB-999-AP-26 NO. OF PAGES 088 DATE OF PUBLICATION 70- -

NUMBER OF AUTHORS 1 B. TURNER .

DESCRIPTORS

1015	GAUSSIAN MODEL
4006	APPLICATION
5070	MIXING HEIGHT / INVERSION HEIGHT
8117	POINT SOURCE
8125	LINE SOURCE
8133	AREA SOURCE
8320	CONTINUOUS SOURCE
9105	SHORT TERM

REMARKS/ABSTRACT

METHODS OF PRACTICAL APPLICATION OF GAUSSIAN PLUME MODEL TO ESTIMATE POLLUTANT CONCENTRATIONS. ESTIMATES OF DISPERSION ARE THOSE OF PASQUILL RESTATED BY GIFFORD. EMPHASIS ON CONTINUOUS SOURCES, SAMPLING TIMES UP TO 1 H. DETERMINATION OF EFFECTIVE HEIGHT OF EMISSION, EXTENSION OF CONCENTRATION ESTIMATES TO LONGER SAMPLING INTERVALS, INVERSION BREAK-UP FUMIGATION CONCENTRATIONS. GRAPHICAL AIDS.

ENTRY NO. 700010

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INSTITUTION
INSTITUT FUER LEBENSMITTEL-, WASSER- UND LUFTUNTERSUCHUNGEN DER
STADT KOELN D-5000 KOELN FED. REP. OF GERMANY

TITLE OF PAPER
3. BERICHT UEBER DIE IM RAUM KOELN DURCHGEFUEHRTEN LUFTUNTERSUCHUNGEN 1967-1969

LANGUAGE GERMAN

REPORT NO. NO. OF PAGES 102 DATE OF PUBLICATION 70-09-

NUMBER OF AUTHORS 2 O. GUTHOF M. DEIMEL

DESCRIPTORS

2011 SULFUR DIOXIDE
2020 CARBON MONOXIDE
2038 NITROGEN OXIDES
2054 FLUOR COMPOUNDS
2062 PARTICLES
2097 RADIOACTIVE COMPOUNDS
10049 OTHERS

REMARKS/ABSTRACT

SURVEY OF ANALYSES OF THE AIR PERFORMED IN 1968-1969. SO_2-ANNUAL MEAN VALUE RECORDED AT 5 STATIONARY MEASURING SITES SHOWS INFLUENCE OF DOMESTIC HEATING & SMALL IMMISSION INCREASE DUE TO CHANGING METEOROLOGICAL CONDITIONS. SEVERAL POLLUTANTS MEASURED AT RANDOM AT 24 MEASURING SITES: ANNUAL MEAN VALUES & 95-PERCENTILES EVALUATED. POLLUTANT LOAD IN MAIN ROADS INVESTIGATED. SMALL INCREASE OF RADIOACTIV

ENTRY NO. 710001

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INSTITUTION
RESEARCH CORPORATION OF NEW ENGLAND
HARTFORD, CONNECTICUT 06109 USA

TITLE OF PAPER
A REGIONAL AIR QUALITY SIMULATION MODEL (A DESCRIPTION OF THE CONNECTICUT AIR POLLUTION MODEL AS DEVELOPED BY TRAVELERS RESEARCH CTR)

LANGUAGE ENGLISH

REPORT NO. PB-206-938 (R.A.NO) NO. OF PAGES 081 DATE OF PUBLICATION 71-09-

NUMBER OF AUTHORS 2 N. BOWNE G. ROBINSON

DESCRIPTORS

3034 REGIONAL
4073 FUNDAMENTAL (RESEARCH, DEVELOPMENT)
8117 POINT SOURCE
8125 LINE SOURCE
8133 AREA SOURCE
8311 DISCONTINUOUS SOURCE
8320 CONTINUOUS SOURCE

REMARKS/ABSTRACT

THREE CATEGORIES OF SOURCES IN THE MODEL: MAJOR, INTENSE, DISCONTINUOUS, I.E., POINT AND LINE SOURCES (EXAMPLES: STACKS OF MAJOR INDUSTRIAL PLANTS, HIGHWAYS ETC.); NUMEROUS MINOR SOURCES TREATED AS CONTINUOUS AREA SOURCES; SOURCES BEYOND THE BOUNDARY OF THE MODEL. SPECIAL DEVICES TO DEAL WITH THE PROXIMITY OF VERY LARGE SOURCES, UNKNOWN IN DETAIL, ARE DESCRIBED.

ENTRY NO. 710004

AVAILABLE FROM
SEE INSTITUTION

INSTITUTION
STANFORD RESEARCH INSTITUTE
MENLO PARK, CALIFORNIA 04025 USA

TITLE OF PAPER
FIELD STUDY FOR INITIAL EVALUATION OF AN URBAN DIFFUSION MODEL FOR CARBON MONOXIDE

LANGUAGE ENGLISH

REPORT NO. PB-203-469 (R.A.NO) NO. OF PAGES 254 DATE OF PUBLICATION 71-06-

NUMBER OF AUTHORS 4 W. JOHNSON W. DABBERDT

DESCRIPTORS

1015 GAUSSIAN MODEL
2020 CARBON MONOXIDE
3026 URBAN
4073 FUNDAMENTAL (RESEARCH, DEVELOPMENT)
5045 TOPOGRAPHY
5053 ROUGHNESS OF GROUND
8516 WIND VARIANCE WITH HEIGHT
9105 SHORT TERM
9229 FREQUENCY DISTRIBUTIONS

REMARKS/ABSTRACT

MEASUREMENT PROGRAM IN SAN JOSE CA. DURING NOV. AND DEC. 1970 PROVIDED DATA TO EVALUATE & IMPROVE RECEPTOR-ORIENTED GAUSSIAN DIFFUSION MODEL TO CALCULATE URBAN CO CONCENTRATIONS. HELICAL AIR CIRCULATION IN STREET CANYON, VERTICAL WIND PROFILES, HORIZONTAL PROFILES OF CO CONCENTRATIONS AT VARIOUS HEIGHTS. REVISED MODEL REPRODUCES OBSERVED FREQUENCY DISTRIBUTIONS & HOURLY PREDICTIONS VERY WELL.

ENTRY NO. 710005

AVAILABLE FROM
SEE INSTITUTION

INSTITUTION
STANFORD RESEARCH INSTITUTE
MENLO PARK, CALIFORNIA 04025

TITLE OF PAPER
FIELD STUDY FOR INITIAL EVALUATION OF AN URBAN DIFFUSION MODEL FOR CARBON MONOXIDE

LANGUAGE ENGLISH

REPORT NO. PB-210 820 (R.A.NO) NO. OF PAGES 255 DATE OF PUBLICATION 71-06-

NUMBER OF AUTHORS 4 W. JOHNSON W. DABBERT

DESCRIPTORS

1015	GAUSSIAN MODEL
2020	CARBON MONOXIDE
3026	URBAN
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
5045	TOPOGRAPHY
5053	ROUGHNESS OF GROUND
9229	FREQUENCY DISTRIBUTIONS
10030	PARAMETER DETERMINATION
10014	VALIDATION

REMARKS/ABSTRACT

MEASUREMENT PROGRAM IN SAN JOSE CA. PROVIDED DATA TO IMPROVE AN RECEPTOR-ORIENTED GAUSSIAN DIFFUSIAN MODEL TO CALCULATE URBAN CO-CONCENTRATIONS. 7 STATIONS IN DOWNTOWN AREA MEASURED CO AT 5 HEIGHTS, WINDS AND TEMPERATURE GRADIENTS, CO AND TEMPERATURE ALSO BY HELICOPTER AND 2 VANS. SAN JOSE'S AUTOMATED DOWNTOWN NETWORK PROVIDED TRAFFIC DATA. IMPROVED MODEL REPRODUCES FREQUENCY DISTRIBUTION WELL.

ENTRY NO. 710006

AVAILABLE FROM
U.S. EPA AIR QUAL.PLANN.&STAND. RES. TRIANGLE PARK N.C. 27711

INSTITUTION
CENTER FOR ENVIRONMENTAL STUDIES ARGONNE NATIONAL LABORATORY
9700 SOUTH CASS AVENUE ARGONNE, ILLINOIS 60439

TITLE OF PAPER
AIR POLLUTION - LAND USE PLANNING PROJECT

LANGUAGE ENGLISH

REPORT NO. ANL/ES-7 NO. OF PAGES 153 DATE OF PUBLICATION 71-07-

NUMBER OF AUTHORS 6 A. KENNEDY A. COHEN

DESCRIPTORS

1007 MODEL TYPE
4081 URBAN AND REGIONAL PLANNING

REMARKS/ABSTRACT

THIS REPORT PRESENTS METHODS AND PROCEDURES THAT CAN BE USED TO ASSESS THE AIR POLLUTION POTENTIAL OF LAND-USE PLANS AND DISCUSSES METHODS BY WHICH AIR POLLUTION CONSIDERATIONS CAN BE INTRODUCED INTO THE PLANNING PROCESS.

ENTRY NO. 710007

AVAILABLE FROM
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INSTITUTION
PUGET SOUND AIR POLLUTION CONTROL AGENCY
410 WEST HARRISON STREET P.O. BOX 9863 SEATTLE, WASHINGTON 98109

TITLE OF PAPER
APPLICATION OF AN URBAN DIFFUSION MODEL TO MODELING SUSPENDED PARTICULATES IN THE PUGET SOUND AIR QUALITY CONTROL REGION

LANGUAGE ENGLISH

REPORT NO. 71-AP-21 NO. OF PAGES 028 DATE OF PUBLICATION 71-11-

NUMBER OF AUTHORS 1 K. KNECHTEL

DESCRIPTORS

1007	MODEL TYPE
2062	PARTICLES
3026	URBAN
4014	LICENSING PROCEDURE
4057	IN ADDITION TO MEASUREMENTS
5045	TOPOGRAPHY
8117	POINT SOURCE
8133	AREA SOURCE
9237	CHARACTERISTIC VALUES
10022	CALIBRATION

REMARKS/ABSTRACT

UTILIZATION OF URBAN DIFFUSION MODEL IN DEVELOPING CONTROL PLAN TO MEET AIR QUALITY STANDARDS: SUSPENDED PARTICULATE EMISSIONS FROM MULTIPLE POINT & AREA SOURCES, ANNUAL AVERAGE CONCENTRATIONS. SEPARATE MODELING EFFORTS FOR SOME INDUSTRIAL AREAS DUE TO COMPLEXITIES IN METEOROLOGY AND TOPOGRAPHY. MODEL CALIBRATED FOR USE IN EACH OF THESE AREAS. APPLIANCE TO DEMONSTRATE EFFECTIVENESS OF STANDARDS.

ENTRY NO. 710008

AVAILABLE FROM
U.S. EPA METEOR. LAB. RESEARCH TRIANGLE PARK, N.C. 27711 USA

INSTITUTION
GEOMET, INCORPORATED
ROCKVILLE, MARYLAND 20760 USA

TITLE OF PAPER
VALIDATION AND SENSITIVITY ANALYSIS OF THE GAUSSIAN PLUME MULTIPLE-SOURCE URBAN DIFFUSION MODEL

LANGUAGE ENGLISH

REPORT NO. GEOMET-EF-60 NO. OF PAGES 751 DATE OF PUBLICATION 71-11-

NUMBER OF AUTHORS 2 R. KOCH S. THAYER

DESCRIPTORS

1015 GAUSSIAN MODEL
2011 SULFUR DIOXIDE
3026 URBAN
4073 FUNDAMENTAL (RESEARCH, DEVELOPMENT)
7200 SYSTEMATICAL VARIATION OF PARAMETERS
8320 CONTINUOUS SOURCE
9105 SHORT TERM
9202 LONG TERM
10014 VALIDATION
12017 PROGRAM DESCRIPTION

REMARKS/ABSTRACT

ANALYSIS AND RESULTS OF A PROGRAM OF VALIDATION AND SENSITIVITY ANALYSIS OF STEADY-STATE GAUSSIAN PLUME URBAN DIFFUSION MODEL. DEFINITION OF FUNDAMENTAL SHORT-TERM STEADY-STATE MODEL AND ITS VARIOUS MODES OF IMPLEMENTATION IN TERMS OF EMISSION AND ENVIRONMENTAL INPUT PARAMETERS & OF CALCULATIONAL MODES. SET OF COMPUTER PROGRAMS. COMPARISON OF SHORT-TERM & LONG-TERM PREDICTIONS WITH MEASURED VALUES.

ENTRY NO. 710009

AVAILABLE FROM
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INSTITUTION
INSTITUT FUER METEOROLOGIE TECHNISCHE HOCHSCHULE DARMSTADT
HOCHSCHULSTR. 1 D-6100 DARMSTADT FED. REP. OF GERMANY

TITLE OF PAPER
UNTERSUCHUNGEN UEBER METEOROLOGISCHE EINFLUESSE AUF DIE AUSBREITUNG VON SCHADGASEN (FED.REP.GERM. HEALTH SERV. NO. 124, VOL. 16)

LANGUAGE GERMAN

REPORT NO. NO.124 VOL. 16 NO. OF PAGES DATE OF PUBLICATION 71- -

NUMBER OF AUTHORS 1 G. MANIER

DESCRIPTORS

1015 GAUSSIAN MODEL
4073 FUNDAMENTAL (RESEARCH, DEVELOPMENT)
8435 3-DIMENSIONAL METEOROLOGICAL STATISTICS

REMARKS/ABSTRACT

FOR MANY AIR POLLUTION PROBLEMS, ESPECIALLY THOSE WITH PLANNING ASPECTS, COMPLETE KNOWLEDGE OF MULTI-DIMENSIONAL FREQUENCY DISTRIBUTIONS OF METEOROLOGICAL DISPERSION IS IMPORTANT. FREQUENCY DISTRIBUTIONS OF WIND SPEED, WIND DIRECTION, AND STABILITY CLASSES CALCULATED FOR 30 GERMAN LOCATIONS. CORRECTION METHOD OF FREQUENCY DISTRIBUTIONS DERIVED FROM INCOMPLETE DATA. STATISTICAL ANALYSIS.

ENTRY NO. 710011

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INSTITUTION
SMITH-SINGER METEOROLOGISTS, INC.
134 BROADWAY AMITYVILLE, NY 11701 USA

TITLE OF PAPER
OZONE CONCENTRATIONS FROM 765 KVA LINES

LANGUAGE ENGLISH

REPORT NO. NO. OF PAGES 006 DATE OF PUBLICATION 71-01-21

NUMBER OF AUTHORS 1 M. SMITH

DESCRIPTORS

1007 MODEL TYPE
2070 OXIDANTS
3018 LOCAL
4073 FUNDAMENTAL (RESEARCH, DEVELOPMENT)
5029 TURBULENCE CLASSES
8125 LINE SOURCE
9105 SHORT TERM

REMARKS/ABSTRACT

O3 EMITTED IN CORONA DISCHARGE FROM HIGH VOLT. LINE. EMISSION DATA PREPARED BY AEP, THEORET. ESTIMATES OF POSSIBLE GROUND-LEVEL CONCEN. DEVELOPED. GENERATION RATE & DISPERSION VELOCITY OF O3 STRONGLY DEPENDENT ON METEO. CONDITIONS: PREDICTED LEVELS VARY OVER SEVERAL ORDERS OF MAGNITUDE. HIGHEST ONE FOR VERY STABLE, FOGGY CONDITION WITH WIND PARALLEL TO THE LINES, MIGHT OCCASIONALLY REACH 0.02 PPM.

ENTRY NO. 720007

AVAILABLE FROM
SEE INSTITUTION

INSTITUTION
TUEV RHEINLAND E.V.   POSTFACH 101750
D-5000 KOELN 1

TITLE OF PAPER
ANWENDUNG DER AUSBREITUNGSRECHNUNG AUF STOERFALLBEDINGTE FREISETZUNGEN RADIOAKTIVER SPALTPRODUKTE AUS KERTECHNISCHEN ANLAGEN

LANGUAGE   GERMAN

REPORT NO. 3103/65808STSCH0567 NO. OF PAGES 229 DATE OF PUBLICATION 72-04-

NUMBER OF AUTHORS 2   H. BRESSER   E. ESCHBACH

DESCRIPTORS

1015 GAUSSIAN MODEL
2097 RADIOACTIVE COMPOUNDS
3018 LOCAL
4073 FUNDAMENTAL (RESEARCH, DEVELOPMENT)
6246 RADIOACTIVE DECAY
9105 SHORT TERM
11207 LIMITS OF APPLICABILITY
12017 PROGRAM DESCRIPTION

REMARKS/ABSTRACT

REPORT DESCRIBES COMPUTATION OF RADIOLOGICAL BURDEN BY MEANS OF A GAUSSIAN MODEL. PROPORTIONALITY FACTORS ARE TABULATED FOR MODELING THE RADIOACTIVE BURDEN FROM CONCENTRATION DISTRIBUTION. SPECIAL EMPHASIS IS LAID UPON DIFFICULTIES TO COMPUTE EXTERNAL RADIATION AND UPON LIMITS OF MODEL APPLICATION, ESPECIALLY WITH RESPECT TO PLANNING STRATEGIES FOR CRITICAL EMERGENCY. COMPUTER-CODE/RADIOACT. IMM.

ENTRY NO. 720004

AVAILABLE FROM
SEE INSTITUTION

INSTITUTION
KAMAN SCIENCES CORPORATION 1500 GARDEN OF THE GODS ROAD
COLORADO SPRINGS, COLORADO 80907 USA

TITLE OF PAPER
LAND USE PLANNING FOR AIR QUALITY IN THE PIKES PEAK AREA
SUBJECT: AIR QUALITY STUDY 1970-1990

LANGUAGE ENGLISH

REPORT NO. K-72-946-FR NO. OF PAGES 160 DATE OF PUBLICATION 72-08-

NUMBER OF AUTHORS 4 R. BURRISS E. BRIGGS

DESCRIPTORS

3026 URBAN
3034 REGIONAL
4030 CAUSE ANALYSIS

REMARKS/ABSTRACT

PIKES PEAK AREA AND COLORADO SPRINGS RAPIDLY GROWING URBAN AREAS/ EXISTING AND EXPECTED AIR POLLUTION/ RELATIVE IMPACT OF INDUSTRY, POWER GENERATION, URBAN SPRAWL AND TRAFFIC/ MANY GROWTH PATTERNS AND THEIR EFFECT ON AIR POLLUTION PRESENTED/ NATURAL GAS IS THE STANDARD FUEL, NO FURTHER EMISSION CONTROL ON INDUSTRY POSSIBLE, HOME INCINERATION BANNED/ YET, DUST EXCEEDS STANDARDS, AUTOMOBILE-CAUSED SMOG

ENTRY NO. 720007

AVAILABLE FROM
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TRANSPORTATIONS SYSTEMS CENTER   55 BROADWAY AVENUE
CAMBRIDGE, MASSACHUSETTS 02142   USA

TITLE OF PAPER
COMPUTER-MODEL OF TRANSPORTATION-GENERATED AIR POLLUTION.
A STATE-OF-THE-ART SURVEY

LANGUAGE   ENGLISH

REPORT NO. DOT-TSC-OST-72-20   NO. OF PAGES 132 DATE OF PUBLICATION 72-06-

NUMBER OF AUTHORS 1   E. DARLING

DESCRIPTORS

1007 MODEL TYPE
1015 GAUSSIAN MODEL
2039 NITROGEN OXIDES
4073 FUNDAMENTAL (RESEARCH, DEVELOPMENT)
8125 LINE SOURCE
10014 VALIDATION

REMARKS/ABSTRACT

PARTICULAR STRESS ON MODELING OF DISPERSION FROM TRANSPORTATION SOURCES. APPLIED MODELS STRESSED, THEIR COMPUTATIONAL ASPECTS TREATED IN DETAIL. GAUSSIAN & CONSERVATION OF MASS MODELS MOST WIDELY USED. APPLICATIONS ARE DISCUSSED & VALIDATIONS CRITICALLY ASSESSED.

ENTRY NO. 720008

AVAILABLE FROM
  SEE INSTITUTION

INSTITUTION
  PUBLISHED BY: VERLAG TUEV RHEINLAND
  D-5000 KOELN 1   W.-GERMANY

TITLE OF PAPER
  SCHUTZABSTAENDE ALS INSTRUMENT DER STADT- UND REGIONALPLANUNG ZUR BERUECKSICHTIGUNG DES FAKTORS LUFTREINHALTUNG

LANGUAGE   GERMAN

REPORT NO. TUEV-AKAD. HEFT 4   NO. OF PAGES 094 DATE OF PUBLICATION 72- -

NUMBER OF AUTHORS 2   F. DREYHAUPT   H. BRESSER

DESCRIPTORS

1015	GAUSSIAN MODEL
2046	ORGANIC GASES
3018	LOCAL
4014	LICENSING PROCEDURE
8117	POINT SOURCE
8133	AREA SOURCE
8222	STATIONARY SOURCE
8311	DISCONTINUOUS SOURCE
8320	CONTINUOUS SOURCE
9229	FREQUENCY DISTRIBUTIONS
9237	CHARACTERISTIC VALUES

REMARKS/ABSTRACT

METHODS TO DEFINE PROTECTING DISTANCES IN THE NEIGHBOURHOOD OF INDUSTRIAL PLANTS CONSIDERING THE ASPECTS OF AIR QUALITY IN SEVERAL COUNTRIES ARE COLLECTED AND DISCUSSED. USING A STANDARD REFINERY AS AN EXAMPLE A METHOD IS DEMONSTRATED TO DETERMINE PROTECTING DISTANCES UNDER APPLICATION OF DISPERSION MODELING AND GIVEN IMMISSION STANDARDS FOR AIR POLLUTANTS.

ENTRY NO. 720009

AVAILABLE FROM
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INSTITUTION
BATTELLE-INSTITUT E.V.   AM ROEMERHOF 35
D-6000 FRANKFURT(MAIN)

TITLE OF PAPER
VERGLEICH VON RICHTLINIEN FUER DIE BERECHNUNG VON
SCHORNSTEINMINDESTHOEHEN

LANGUAGE   GERMAN

REPORT NO.   NO. OF PAGES   DATE OF PUBLICATION 72-11-

NUMBER OF AUTHORS 3   H. VON FALSER   K. MICHELMANN

DESCRIPTORS

1015 GAUSSIAN MODEL
2011 SULFUR DIOXIDE
3018 LOCAL
4022 STACK HEIGHT DETERMINATION
8117 POINT SOURCE
8222 STATIONARY SOURCE
8320 CONTINUOUS SOURCE
9237 CHARACTERISTIC VALUES

REMARKS/ABSTRACT

GUIDELINES OF F.R. GERMANY, GDR, FRANCE, SWEDEN, U.K., & JAPAN, METHODS OF CONCAWE AND VDI-GUIDELINES COMPARED. MINIMUM STACK HEIGHTS CALCULATED ACCORDING TO THESE GUIDELINES AND METHODS PRESENTED IN TABLES AND GRAPHS. COMPARISON FOR CONSTANT POLLUTANT CONCENTRATION IN FLUE GAS OF 5 G SO2/M3, CONSTANT EXIT VELOCITY OF 10 M/S & GAS TEMPERATURES OF 75, 200, 320 DEG C. FLOW RATE FROM 10E3 TO 10E6 M/H.

ENTRY NO. 720011

AVAILABLE FROM
SEE INSTITUTION

INSTITUTION
LABORATORY FOR TECHNICAL PHYSICS TECHNICAL UNIVERSITY
LORENTZWEG NL - DELFT THE NETHERLANDS

TITLE OF PAPER
EEN EENVOUDIG MODEL TER BEREKENING VAN DE ZWAVELDIOXYDE-VERONTREINIGING IN NEDERLANDSE STEDEN

LANGUAGE DUTCH

REPORT NO. M. SC. DISSERTATION NO. OF PAGES 077 DATE OF PUBLICATION 72-08-15

NUMBER OF AUTHORS 1 H. GOUMANS

DESCRIPTORS

1015 GAUSSIAN MODEL
2011 SULFUR DIOXIDE
3026 URBAN
4073 FUNDAMENTAL (RESEARCH, DEVELOPMENT)
8133 AREA SOURCE
8222 STATIONARY SOURCE
9113 MEAN VALUES
9229 FREQUENCY DISTRIBUTIONS
10014 VALIDATION

REMARKS/ABSTRACT

SIMPLE AND EASILY APPLICABLE GAUSSIAN-PLUME MODEL DEVELOPED TO SIMULATE URBAN AIR POLLUTION. URBAN AREA TREATED AS AREA SOURCE. MODEL TESTED ON MEASURED DATA IN AMSTERDAM ET AL BY CALCULATING SO2-CONCENTRATION DUE TO DOMESTIC HEATING. DIFFUSION PARAMETERS CY AND CZ AND STABILITY PARAMETER N ARE RELATED ACCORDING TO PASQUILL. MEAN DAILY CONCENTRATIONS AS WELL AS FREQUENCY DISTRIBUTIONS VALIDATED.

ENTRY NO. 720013

AVAILABLE FROM
SEE INSTITUTION

INSTITUTION
STANFORD RESEARCH INSTITUTE
MENLO PARK, CA. 04025 USA

TITLE OF PAPER
EVALUATION OF THE APRAC-1A URBAN DIFFUSION MODEL FOR CARBON MONOXIDE

LANGUAGE ENGLISH

REPORT NO. PB-210-819 (R.A.NO) NO. OF PAGES 162 DATE OF PUBLICATION 72-02-

NUMBER OF AUTHORS 2 F. LUDWIG W. DABBERDT

DESCRIPTORS

1015	GAUSSIAN MODEL
2020	CARBON MONOXIDE
3026	URBAN
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
5029	TURBULENCE CLASSES
5045	TOPOGRAPHY
10014	VALIDATION
10049	OTHERS

REMARKS/ABSTRACT

FURTHER DEVELOPMENT AND TESTING OF PRACTICAL, MULTIPURPOSE URBAN MODEL (APRAC-1A) FOR CO TO DETERMINE WHETHER 1970-FINDINGS IN SAN JOSE CA. COULD BE GENERALIZED TO LARGER CITIES WITH HIGHLY DEVELOPED URBAN CORES. TWO ADJACENT DOWNTOWN STREET CANYONS WERE INSTRUMENTED TO OBTAIN MEASUREMENTS OF CO AT 30 POINTS AND OF WINDS AT 8. HELICOPTER & VAN-BORN INSTRUMENTATION USED TO SUPPLEMENT DATA. MODEL REVISED

ENTRY NO. 720015

AVAILABLE FROM
  SEE INSTITUTION

INSTITUTION
  STANFORD RESEARCH INSTITUTE
  MENLO PARK, CA. 94025   USA

TITLE OF PAPER
  USER'S MANUAL FOR THE APRAC-1A URBAN DIFFUSION MODEL COMPUTER
  PROGRAM

LANGUAGE   ENGLISH

REPORT NO. PB 213 091/2 (R.A.) NO. OF PAGES 122 DATE OF PUBLICATION 72- -

NUMBER OF AUTHORS 2   R. MANCUSO   F. LUDWIG

DESCRIPTORS

1015 GAUSSIAN MODEL
2020 CARBON MONOXIDE
3026 URBAN
4073 FUNDAMENTAL (RESEARCH, DEVELOPMENT)
5045 TOPOGRAPHY

REMARKS/ABSTRACT

APRAC-1A DIFF. MO. DEVELOPED TO COMPUTE CONCENTRATIONS OF POLLUTANTS AT ANY POINT WITHIN A CITY. MODEL CALCULATES POLLUTANT CONTRIBUTIONS FROM DIFFUSION ON VARIOUS SCALES: EXTRAURBAN DIFFUSION, MAINLY FROM SOURCES IN UPWIND CITIES; INTRAURBAN DIFFUSION FROM FREEWAY, ARTERIAL, AND FEEDER STREET SOURCES; LOCAL DIFFUSION OF EMISSIONS WITHIN A STREET CANYON. MODEL TREATS ONLY CO, MOTOR VEHICLES ARE MAJOR SOURCE

ENTRY NO. 720016

AVAILABLE FROM
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INSTITUTION
INSTITUT FUER METEOROLOGIE TECHNISCHE HOCHSCHULE DARMSTADT
HOCHSCHULSTR. 1 D-6100 DARMSTADT

TITLE OF PAPER
DIE BESTIMMUNG VON SCHORNSTEINHOEHEN IM HINBLICK AUF DIE LUFTREINHALTUNG

LANGUAGE GERMAN

REPORT NO. VDI REIHE 15 NR. 4 NO. OF PAGES DATE OF PUBLICATION 72- -

NUMBER OF AUTHORS 1 G. MANIER

DESCRIPTORS

1015	GAUSSIAN MODEL
3018	LOCAL
4022	STACK HEIGHT DETERMINATION
5037	PLUME RISE
8117	POINT SOURCE
8222	STATIONARY SOURCE
8320	CONTINUOUS SOURCE
8435	3-DIMENSIONAL METEOROLOGICAL STATISTICS
9202	LONG TERM
12009	DOCUMENTATION

REMARKS/ABSTRACT

IN GERMANY REQUIRED MINIMUM STACK HEIGHT IS DETERMINED FOLLOWING THE VDI-RICHTLINIE 2289 (1963) UTILIZING ANNUAL MEANS OF METEOROLOGICAL DISPERSION CONDITIONS. THESE MEAN VALUES ARE REPLACED BY FREQUENCY DISTRIBUTION FOR CHARACTERISTIC CLIMATOLOGICAL REGIONS IN GERMANY. PLUME RISE FORMULA REPLACED BY BRIGG'S FORMULA. ON THIS BASIS GUIDE-LINE-DIAGRAMS FOR STACK HEIGHT DETERMINATION HAVE BEEN DEVELOPED.

ENTRY NO. 720017

AVAILABLE FROM
SEE INSTITUTION

INSTITUTION
LEHRKANZEL FUER THEORETISCHE METEOROLOGIE DER UNIVERSITAET WIEN
HOHE WARTE 38 A-1190 WIEN AUSTRIA

TITLE OF PAPER
VERWENDUNG SYNOPTISCHER BEOBACHTUNGEN ZUR KLASSIFIKATION DER AUSBREITUNGSBEDINGUNGEN BEI NAECHTLICHEN TEMPERATUR-INVERSIONEN

LANGUAGE GERMAN

REPORT NO. PUBL. NR. 6 NO. OF PAGES 016 DATE OF PUBLICATION 72-12-

NUMBER OF AUTHORS 1 H. REUTER

DESCRIPTORS

1015	GAUSSIAN MODEL
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
5010	DISPERSION PARAMETERS
5029	TURBULENCE CLASSES
5070	MIXING HEIGHT / INVERSION HEIGHT
11100	ADVANTAGES

REMARKS/ABSTRACT

THEORY OF TEMPERATUREGRADIENT IN THE ATMOSPHERE DURING FORMATION OF NOCTURNAL INVERSION DUE TO RADIATIONAL SURFACE COOLING. GRADIENT AS FUNCTION OF WINDSPEED AND TEMPERATURE DIFFERENCE BETWEEN SUNSET AND TIME CONSIDERED. THERMAL STABILITY IMPORTANT FOR DISPERSION OF AIR POLLUTION, DISPERSION CLASSES THUS DETERMINED MORE EXACTLY THAN WITH USUAL METHODS (PASQUILL OR TURNER) WHEN ONLY SURFACE OBSERVATIONS.

ENTRY NO. 720018

AVAILABLE FROM
SEE INSTITUTION

INSTITUTION
ROYAL NETHERLANDS METEOROLOGICAL INSTITUTE
UTRECHTSEWEG 297 DE BILT-2664 THE NETHERLANDS

TITLE OF PAPER
CLIMATOLOGICAL DATA OF NETHERLANDS STATIONS
NO 8 FREQUENCY TABLES OF ATMOSPHERIC STABILITY

LANGUAGE ENGLISH

REPORT NO. KNMI 150-8 NO. OF PAGES 090 DATE OF PUBLICATION 72-01-

NUMBER OF AUTHORS . NN .

DESCRIPTORS

1015 GAUSSIAN MODEL
4081 URBAN AND REGIONAL PLANNING
5029 TURBULENCE CLASSES
8435 3-DIMENSIONAL METEOROLOGICAL STATISTICS

REMARKS/ABSTRACT

SEASONAL & ANNUAL FREQUENCY DISTRIBUTIONS OF STABILITY CLASSES ACCORDING TO PASQUILL ARE GIVEN FOR 18 NETHERLANDS METEOR. STATIONS FOR DAYTIME, NIGHTTIME, & THE 24-HOUR PERIOD. FREQUENCY DISTRIBUTIONS ARE GROUPED UNDER 5 WIND SPEED CLASSES & 12 WIND DIRECTION CLASSES. THE DISTRIBUTIONS ARE BASED ON AN OBSERVATION PERIOD OF ABOUT 22 YEARS

ENTRY NO. 730001

AVAILABLE FROM
SEE INSTITUTION

INSTITUTION
AIR POLLUTION GROUP HOOGOVENS IJMUIDEN B.V.
KESSLERPLEIN 1 NL - IJMUIDEN

TITLE OF PAPER
DE SCHATTING VAN IMMISSIECONCENTRATIES IN DE OMGEVING VAN EEN INDUSTRIECOMPLEX (ESTIMAT IMMISSION CONC IN THE SURROUND INDUST COM)

LANGUAGE DUTCH

REPORT NO. ARCH. LAB. NR.34751 NO. OF PAGES 012 DATE OF PUBLICATION 73-06-

NUMBER OF AUTHORS 1 C. ARONDS

DESCRIPTORS

1015	GAUSSIAN MODEL
2011	SULFUR DIOXIDE
3018	LOCAL
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
8117	POINT SOURCE
8320	CONTINUOUS SOURCE
9229	FREQUENCY DISTRIBUTIONS
10014	VALIDATION
11207	LIMITS OF APPLICABILITY

REMARKS/ABSTRACT

DISPERSION MODEL TO CALCULATE CONCENTRATIONS FREQUENCY DISTRIBUTION AROUND INDUSTRIAL COMPLEX WITH CONTINUOUS POINT SOURCE.COMPUTER PROGRAM,LOCAL WEATHER DATA,DATA OF FORMER WIND TUNNEL STUDY. COMPARISON BETWEEN CALCULATED AND MEASURED VALUES, GOOD AGREEMENT IN HIGH CONCENTRATIONS, LARGE DIFFERENCE IN VERY LOW CONCENTRATION. EXPERIMENTAL DATA ON BACKGROUND SO2-CONCENTRATION NEEDED TO IMPROVE VALIDITY.

ENTRY NO. 73000[illegible]

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INSTITUTION
ENVIRONMENTAL PROTECTION AGENCY METEOROLOGY LABORATORY
RESEARCH TRIANGLE PARK, NORTH CAROLINA 27711 USA

TITLE OF PAPER
USER'S GUIDE FOR THE CLIMATOLOGICAL DISPERSION MODEL

LANGUAGE ENGLISH

REPORT NO. EPA R4 73-024 NO. OF PAGES 137 DATE OF PUBLICATION 73-12-

NUMBER OF AUTHORS 2 A. BUSSE J. ZIMMERMAN

DESCRIPTORS

1015	GAUSSIAN MODEL
3026	URBAN
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
8117	POINT SOURCE
8133	AREA SOURCE
9202	LONG TERM
12017	PROGRAM DESCRIPTION
12025	PROGRAM LISTING

REMARKS/ABSTRACT

CDM DETERMINES LONG-TERM QUASI-STABLE POLLUTANT CONCENTRATIONS USING AVERAGE EMISSION RATES FROM POINT AND AREA SOURCES AND A JOINT FREQUENCY DISTRIBUTION OF WIND DIRECTION AND SPEED AND STABILITY. DIFFERS FROM AQDM IN HANDLING OF AREA SOURCES, USE OF BRIGGS' PLUMERISE FORMULA AND OF AN POWER LAW INCREASE OF WIND SPEED WITH HEIGHT THAT DEPENDS ON STABILITY. COMPLETE DESCRIPTION OF COMPUTER INPUT/OUTPUT.

ENTRY NO. 730003

AVAILABLE FROM
SEE INSTITUTION

INSTITUTION
BATTELLE-PACIFIC NORTHWEST LABORATORIES
RICHLAND, WASHINGTON 99352 USA

TITLE OF PAPER
NATURAL PRECIPITATION WASHOUT OF SULFUR COMPOUNDS FROM PLUMES
OF SULFUR COMPOUNDS FROM PLUMES

LANGUAGE ENGLISH

REPORT NO. PB-232 445/7 (R.A.) NO. OF PAGES 215 DATE OF PUBLICATION 73-06-

NUMBER OF AUTHORS 4 M. DANA J. HALES

DESCRIPTORS

1007	MODEL TYPE
3018	LOCAL
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
6106	CHEMICAL TRANSFORMATIONS
6220	WASH OUT
8117	POINT SOURCE
10014	VALIDATION
10049	OTHERS
2011	SULFUR DIOXIDE

REMARKS/ABSTRACT

FIELD MEASUREMT. & MODELING OF WASHOUT OF SO2 & SULFATE FROM PLUMES/ THE FORMER CONDUCTED TOGETHER WITH BOTH CONTROLLED TEST SOURCES AND ACTUAL POWER PLANT PLUMES/ FORMULATION OF SO2 WASHOUT MODEL PREDICTING RAIN-BORNE SO2-CONCENTRATIONS AGREEING WITH OBSERVED VALUES/ THEORET. ANALYSIS OF SULFATE WASHOUT TOGETHER WITH FIELD OBSERVATIONS INDICATE INVERSE DEPENDENCE OF SULFATE FORMATION ON ACIDITY.

ENTRY NO. 730005

AVAILABLE FROM
SEE INSTITUTION

INSTITUTION
ENVIRONMENTAL RESEARCH AND TECHNOLOGY, INC.   696 VIRGINIA ROAD
CONCORD, MA 01742   USA

TITLE OF PAPER
DEVELOPMENT OF PROCEDURES TO SIMULATE MOTOR VEHICLE POLLUTION LEVELS

LANGUAGE   ENGLISH

REPORT NO. ERT REPORT #P-343-F NO. OF PAGES   DATE OF PUBLICATION 37-02-

NUMBER OF AUTHORS 7   B. EGAN   A. EPSTEIN

DESCRIPTORS

1007 MODEL TYPE
1015 GAUSSIAN MODEL
2020 CARBON MONOXIDE
3034 REGIONAL
4073 FUNDAMENTAL (RESEARCH, DEVELOPMENT)
8125 LINE SOURCE
10014 VALIDATION
10022 CALIBRATION
10049 OTHERS

REMARKS/ABSTRACT

DEVELOPING, VALIDATING & IMPLEMENTING ATMOSPHERIC DISPERSION CAPABILITY TO PREDICT AIR QUALITY DUE TO VEHICULAR TRAFFIC ON FREEWAYS. NUMERICAL SIMULATION TECHNIQUES AND MULTIPLE SOURCE GAUSSIAN PLUME MODEL, FIELD MEASUREMENT PROGRAMS TO VALIDATE AND ASSESS ACCURACY OF MODELS WITH SIMULTANEOUS MEASUREMENT OF AIR QUALITY, METEOROLOGICAL CONDITIONS AND TRAFFIC VOLUMES OVER 21 WEEKS, SPECTRUM OF CARS

ENTRY NO. 730006

AVAILABLE FROM
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INSTITUTION
NORWEGIAN INSTITUTE FOR AIR RESEARCH
BOX 115 N-2007 KJELLER NORWAY

TITLE OF PAPER
LITT OM UTVASKING AV SULFATPARTIKLER I LUFT VED REGNVAER
TN 54/73

LANGUAGE NORWEGIAN

REPORT NO. TN 54/73 NO. OF PAGES 010 DATE OF PUBLICATION 73-05-

NUMBER OF AUTHORS 1 A. ELIASSEN

DESCRIPTORS

2011 SULFUR DIOXIDE
4073 FUNDAMENTAL (RESEARCH, DEVELOPMENT)
6220 WASH OUT

REMARKS/ABSTRACT

THE PAPER DISCUSSES THE WASHOUT PROCESS, THE WASHOUT EFFICIENCY AND THE IMPORTANCE OF WASHOUT OF SULFATE PARTICLES IN PARTICULAR.

ENTRY NO. 730007

AVAILABLE FROM
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INSTITUT FUER THEORETISCHE METEOROLOGIE FREIE UNIVERSITAET BERLIN
THIELALLEE 49 D-1000 BERLIN 33 FED. REP. OF GERMANY

TITLE OF PAPER
EIN VERFAHREN ZUR UNTERSUCHUNG DES EINFLUSSES DER PHYSIK DER PLANETARISCHEN GRENZSCHICHT AUF DIE AUSBREITUNG VON LUFTBEIMENGUNGEN

LANGUAGE GERMAN

REPORT NO. NO. OF PAGES DATE OF PUBLICATION 73- -

NUMBER OF AUTHORS 1 B. GUTSCHE

DESCRIPTORS

1015 GAUSSIAN MODEL
3018 LOCAL
4073 FUNDAMENTAL (RESEARCH, DEVELOPMENT)
5045 TOPOGRAPHY
8508 WIND VARIANCE IN SPACE

REMARKS/ABSTRACT

SEVERE AIR POLLUTION PROBLEMS OCCUR UNDER COMPLEX INHOMOGENEOUS METEOROLOGICAL & TOPOGRAPHIC CONDITIONS. TO OVERCOME DIFFICULTIES OF CONVENTIONAL TECHNIQUES TO HANDLE THESE PROBLEMS A SPECIAL TRAJECTORY MODEL DEVELOPED WHICH ALLOWS FOR TEMPORAL AND SPATIAL VARIATIONS OF TRANSMISSION FACTORS. METHOD APPLIED TO DISPERSION PROCESSES IN HORIZONTALLY AND VERTICALLY STRUCTURED PLANETARY BOUNDARY LAYERS.

ENTRY NO. 730008

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TITLE OF PAPER
UNTERSUCHUNG ZUR LUFTVERUNREINIGUNGSSITUATION BERLINS UNTER BESONDERER BERUECKSICHTIGUNG DER POLITISCHEN LAGE DER GESAMTSTADT

LANGUAGE GERMAN

REPORT NO. NO. OF PAGES DATE OF PUBLICATION 73- -

NUMBER OF AUTHOR 2 B. GUTSCHE P. LENSCHOW

DESCRIPTORS

1015 GAUSSIAN MODEL
3026 URBAN
4073 FUNDAMENTAL (RESEARCH, DEVELOPMENT)
7102 OCCASIONAL VARIATION OF PARAMETERS
9202 LONG TERM

REMARKS/ABSTRACT

CONSEQUENCE OF POLITICAL STATUS OF BERLIN: LACK OF EMISSION DATA FOR EAST BERLIN. COARSE ESTIMATES OF THESE EMISSIONS AND DETAILED SENSITIVITY ANALYSIS OF URBAN DIFFUSION MODEL WITH RESPECT TO THESE DATA NEEDED. FORTAK'S MULTIPLE-SOURCE URBAN DIFFUSION MODEL APPLIED TO SUCH ESTIMATED EMISSION INVENTORY, RESULTS ANALYSED WITH REGARD TO VARIATION IN MAGNITUDE OF INPUT VARIABLES.

ENTRY NO. 730011

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INSTITUTION
ATMOSPHERIC SCIENCES AND CIVIL ENGINEERING UNIVERSITY OF WASHINGTON
SEATTLE, WASHINGTON 98195 USA

TITLE OF PAPER
A CRITICAL REVIEW OF MATHEMATICAL DIFFUSION MODELING TECHNIQUES FOR PREDICTING AIR QUALITY WITH RELATION TO MOTOR VEHICLE TRANSPORTATION

LANGUAGE ENGLISH

REPORT NO. RPR-12.1 NO. OF PAGES 096 DATE OF PUBLICATION 73-06-

NUMBER OF AUTHORS 3 D. LAMB F. BADGLEY

DESCRIPTORS

1007 MODEL TYPE
1015 GAUSSIAN MODEL
2020 CARBON MONOXIDE
3018 LOCAL
3026 URBAN
4073 FUNDAMENTAL (RESEARCH, DEVELOPMENT)
11100 ADVANTAGES
11207 LIMITS OF APPLICABILITY

REMARKS/ABSTRACT
LITERATURE REVIEW TO ASSESS STATE OF THE ART IN AIR QUALITY MODELING AS RELATED TO MOTOR VEHICLE TRANSPORTATION. IN ADDITION, GOVERNMENTAL AGENCIES & PRIVATE COMPANIES WITH AVAILABLE MODELS WERE CONTACTED AS WERE INDIVIDUALS. MODELS AVAILABLE FOR REVIEW ARE DESCRIBED AND EXAMINED WITH RESPECT TO IDENTIFICATION OF LATEST STATE-OF-THE ART CHARACTERISTICS, MODEL APPLICABILITY, AND LIMITATIONS. RECOMMENDAT.

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ENTRY NO. 730012

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TITLE OF PAPER
UNTERSUCHUNG DES EINFLUSSES VERSCHIEDENER ANSAETZE FUER DIE SCHORNSTEINUEBERHOEHUNG AUF DAS IMMISSIONSFELD IN ABHAENGIGKEIT VON ...

LANGUAGE GERMAN

REPORT NO. NO. OF PAGES DATE OF PUBLICATION 73- -

NUMBER OF AUTHORS 1 C. LUDWIG

DESCRIPTORS

1015	GAUSSIAN MODEL
2011	SULFUR DIOXIDE
3018	LOCAL
4022	STACK HEIGHT DETERMINATION
5029	TURBULENCE CLASSES
7200	SYSTEMATICAL VARIATION OF PARAMETERS
8117	POINT SOURCE
8222	STATIONARY SOURCE
8320	CONTINUOUS SOURCE

REMARKS/ABSTRACT

SEVERAL PLUME RISE FORMULAE QUALITATIVELY & QUANTITATIVELY COMPARED ACCORDING TO THEIR EFFECT. FOR CONSTANT SO2-SOURCE STRENGTH INFLUENCE OF WEATHER CONDITIONS (WIND SPEED, VERTICAL WIND PROFILE, ATMOSPHERIC STABILITY), OF STACK DIAMETER, AND OF STACK GAS DATA (TEMPERATURE, VELOCITY) UPON RESPECTIVE PLUME RISE CALCULATIONS IS DISCUSSED. RESULTS COMPILED IN TABLES AND DIAGRAMS.

ENTRY NO. 730013

AVAILABLE FROM
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LEHRKANZEL FUER THEORETISCHE METEOROLOGIE DER UNIVERSITAET WIEN
HOHE WARTE 38 A-1190 WIEN AUSTRIA

TITLE OF PAPER
UNTERSUCHUNGEN ZU EINER IMMISSIONSKLIMATOLOGIE.
TEIL I: WIEN-SCHWECHAT

LANGUAGE GERMAN

REPORT NO. PUBL. NR. 8 NO. OF PAGES 019 DATE OF PUBLICATION 73-04-

NUMBER OF AUTHORS 2 H. REUTER L. PROHASKA

DESCRIPTORS

1015	GAUSSIAN MODEL
3018	LOCAL
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
5029	TURBULENCE CLASSES
8117	POINT SOURCE
8222	STATIONARY SOURCE
8320	CONTINUOUS SOURCE
8435	3-DIMENSIONAL METEOROLOGICAL STATISTICS
9229	FREQUENCY DISTRIBUTIONS

REMARKS/ABSTRACT

THE FREQUENCY DISTRIBUTION OF DISPERSION CLASSES (MODIFIED TURNER CLASSIFICATION) DEPENDENT ON WIND SPEED AND DIRECTION IS DETERMINED USING HALF-HOURLY OBSERVATIONS AT VIENNA AIRPORT (1964-1968). FOR A MEDIUM-SIZE SOURCE (STACK HEIGHT 60 M) THE FREQUENCY DISTRIBUTION OF THE POSITION OF THE MAXIMUM IMMISSION CONCENTRATION IS CALCULATED ON THE BASIS OF THE STATISTICS OF THE DISPERSION CLASSES.

ENTRY NO. 730014

AVAILABLE FROM
SEE INSTITUTION

INSTITUTION
MASSACHUSETTS INSTITUTE OF TECHNOLOGY CAMBRIDGE ENERGY LABORATORY
CAMBRIDGE, MASSACHUSETTS 02139 USA

TITLE OF PAPER
COST EVALUATION OF AIR POLLUTION CONTROL STANDARDS

LANGUAGE ENGLISH

REPORT NO. MIT-EL-73-012 NO. OF PAGES 162 DATE OF PUBLICATION 73-02-

NUMBER OF AUTHORS 1 M. RUANE

DESCRIPTORS

1015	GAUSSIAN MODEL
2011	SULFUR DIOXIDE
2062	PARTICLES
3018	LOCAL
4014	LICENSING PROCEDURE
7102	OCCASIONAL VARIATION OF PARAMETERS
8117	POINT SOURCE
8222	STATIONARY SOURCE
9105	SHORT TERM
9202	LONG TERM

REMARKS/ABSTRACT

MODEL TO DESCRIBE SO2 AND PARTICULATE AIR POLLUTION CHARACTERISTICS OF FOSSIL FUELED STEAM ELECTRIC POWER PLANT IN 3 STAGES: 1. BOILER EMISSIONS AND ABATEMENT METHODS; 2. STACK EMISSIONS AND METEOROLOGICAL DISPERSION MODELS TO GET 3 HOUR, 24 HOUR AND ANNUAL WORST CASE GROUND LEVEL CONCENTRATIONS; 3. PERFORMANCE OF THE ABATEMENT METHOD USED IN TERMS OF ECONOMICS AND RESOURCE COSTS

ENTRY NO. 730015

AVAILABLE FROM
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INSTITUTION
IBM SCIENTIFIC CENTER
DORSODURO 3228 I-30122 VENEZIA ITALY

TITLE OF PAPER
A PRELIMINARY INVESTIGATION OF THE AIR POLLUTION PROBLEM IN THE VENETIAN AREA

LANGUAGE ENGLISH

REPORT NO. 31 NO. OF PAGES 085 DATE OF PUBLICATION 73-12-01

NUMBER OF AUTHORS 2 E. RUNCA P. ZANNETTI

DESCRIPTORS

1015	GAUSSIAN MODEL
2011	SULFUR DIOXIDE
3034	REGIONAL
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
9237	CHARACTERISTIC VALUES

REMARKS/ABSTRACT

A PRELIMINARY ANALYSIS OF THE AIR POLLUTION PROBLEM IN THE 'VENEZIA-MESTRE-MAGHERA' AREA IS PRESENTED. A METHODOLOGY BASED ON SUTTON'S DIFFUSION EQUATION EXPRESSED IN GAUSSIAN FORM TO ESTIMATE THE LONG TERM AVERAGE CONCENTRATION IS PROPOSED AND APPLIED.

ENTRY NO. 730016

AVAILABLE FROM
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THIELALLEE 49 D-1000 BERLIN 33 FED. REP. OF GERMANY

TITLE OF PAPER
FORMELN ZUR BERECHNUNG DER SCHORNSTEINUEBERHOEHUNG, SPEZIELL FUER GROSSEMITTENTEN UND FUER KALTE QUELLEN

LANGUAGE GERMAN

REPORT NO. NO. OF PAGES DATE OF PUBLICATION 73- -

NUMBER OF AUTHORS 1 W. TRAMPF

DESCRIPTORS

4073 FUNDAMENTAL (RESEARCH, DEVELOPMENT)
5037 PLUME RISE
10014 VALIDATION

REMARKS/ABSTRACT

THIS REPORT COVERS A SUMMARY OF PUBLISHED PLUME RISE FORMULAE AND THEIR THEORETICAL OR SEMI-EMPIRICAL BACKGROUND. PLUME RISE MEASUREMENTS FOR SEVERAL PLANTS ARE COMPILED. THE COMPARISON OF OBSERVED AND CALCULATED PLUME RISE REPRESENTS THE BASIS FOR A COMPARATIVE ASSESSMENT OF PLUME RISE FORMULAE.

ENTRY NO. 730017

AVAILABLE FROM
SEE INSTITUTION

INSTITUTION
NATIONAL AEROSPACE LABORATORY NLR
SLOTERWEG 145 NL-AMSTERDAM . THE NETHERLANDS

TITLE OF PAPER
A COMPUTER MODEL FOR THE DISPERSION OF AIR POLLUTION PRODUCED BY AIRPORTS

LANGUAGE ENGLISH

REPORT NO. NLR TR 73 099 U · NO. OF PAGES 013 DATE OF PUBLICATION 73-08-29

NUMBER OF AUTHORS 1 M. VAN DER WILT .

DESCRIPTORS

1015	GAUSSIAN MODEL
3018	LOCAL
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
5079	MIXING HEIGHT / INVERSION HEIGHT
8117	POINT SOURCE
8125	LINE SOURCE
8133	AREA SOURCE
8435	3-DIMENSIONAL METEOROLOGICAL STATISTICS

REMARKS/ABSTRACT

CONCENTRATION OF POLLUTANTS IN THE PLUME OF CONSTANT EMITTING POINT SOURCE ASSUMED TO HAVE GAUSSIAN DISTRIBUTION ('GAUSSIAN PLUME'). METEOROLOGICAL CONDITIONS CHARACTERIZED BY WIND SPEED, WIND DIRECTION, STABILITY CLASS AND MIXING DEPTH. SOURCES OF POLLUTION REPRESENTED BY POINT, LINE, AND AREA SOURCES. FINALLY, SOME AREAS IN WHICH LIMITED KNOWLEDGE AFFECTS IMPLEMENTATION OF AIRPORT DISPERSION MODELING.

ENTRY NO. 730018

AVAILABLE FROM
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INSTITUTION
WALDEN RESEARCH DIVISION OF ABCOR, INC.
201 VASSAR STREET CAMBRIDGE, MASSACHUSETTS 02139 USA

TITLE OF PAPER
SUMMARY REPORT ON MODELING ANALYSIS OF POWER PLANTS FOR COMPLIANCE EXTENSIONS IN 51 AIR QUALITY CONTROL REGIONS

LANGUAGE ENGLISH

REPORT NO. EPA-450/3-75-060 NO. OF PAGES 083 DATE OF PUBLICATION 73-12-

NUMBER OF AUTHORS 1 P. MORGENSTERN

DESCRIPTORS

1007 MODEL TYPE
2011 SULFUR DIOXIDE
3034 REGIONAL
4014 LICENSING PROCEDURE

REMARKS/ABSTRACT

MODELING ANALYSIS OF POWER PLANTS IN A NUMBER OF CRITICAL AQCRS WITH THE PURPOSE TO DETERMINE WHETHER AND TO WHAT EXTENT VARIANCES COULD BE GRANTED FOR CERTAIN PLANTS TO RELIEVE THE AGGREGATE LOW-SULFUR COAL DEFICIT PROBLEM, I.E. EXTENSION OF TIME TO MEET REGULATORY REQUIREMENTS. STUDY DEMONSTRATES GENERAL FEASIBILITY OF REDUCING LOW-SULFUR COAL DEFICIT BY COMPLIANCE EXTENSIONS.

ENTRY NO. 730020

AVAILABLE FROM
SEE INSTITUTION

INSTITUTION
MASSACHUSETTS INST. OF TECHNOLOGY CAMBRIDGE OPERATIONS RESEARCH CTR
CAMBRIDGE, MASSACHUSETTS 02139 USA

TITLE OF PAPER
OPTIMAL CONTROL OF SULFUR DIOXIDE EMISSIONS AT POWER STATIONS:
MODELS AND A CASE STUDY

LANGUAGE ENGLISH

REPORT NO. TR-82 NO. OF PAGES 127 DATE OF PUBLICATION 73-09-

NUMBER OF AUTHORS 1 M. PATEL

DESCRIPTORS

1007	MODEL TYPE
2011	SULFUR DIOXIDE
3034	REGIONAL
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
4081	URBAN AND REGIONAL PLANNING
7102	OCCASIONAL VARIATION OF PARAMETERS
8400	METEOROLOGICAL STATISTICS
9237	CHARACTERISTIC VALUES

REMARKS/ABSTRACT

EMISSION CONTROL STRATEGIES DEPENDING ON METEOROLOGICAL CONDITIONS. METEOROLOGICAL MODEL RELATES SOURCE EMISSIONS WITH AVERAGE POLLUTANT CONCENTRATION IN A REGION UNDER DIFFERENT METEOROLOGICAL CONDITIONS. PROBLEM TO DETERMINE OPTIMAL DYNAMIC CONTROL FOR FOSSIL-FUELED POWER STATIONS' SO2-EMISSIONS TREATED BY LINEAR PROGRAMMING MODEL. THE MODELS APPLIED TO METROPOLITAN BOSTON AIR POLLUTION CONTROL DISTRICT.

ENTRY NO. 730024

AVAILABLE FROM
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INSTITUTION
ENVIRONMENTAL RESEARCH AND TECHNOLOGY, INC.
429 MARRETT ROAD LEXINGTON, MASSACHUSETTS 02173 USA

TITLE OF PAPER
HACKENSACK MEADOWLANDS AIR POLLUTION STUDY - SUMMARY REPORT

LANGUAGE ENGLISH

REPORT NO. EPA-450/3-74-056-2 NO. OF PAGES DATE OF PUBLICATION 73-07-

NUMBER OF AUTHORS 1 B. WILLIS .

DESCRIPTORS

1015	GAUSSIAN MODEL
3034	REGIONAL
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
4081	URBAN AND REGIONAL PLANNING
10014	VALIDATION
10022	CALIBRATION

REMARKS/ABSTRACT

STUDY CONSISTS OF SUMMARY REPORT & 5 TASK REPORTS. FIRST DISCUSSES PROCEDURES TO CONSIDER AIR POLLUTION IN PLANNING PROCESS AND USE OF THESE PROCEDURES TO EVALUATE 4 ALTERNATIVE LAND USE PLANS FOR NEW JERSEY HACKENSACK MEADOWLANDS FOR 1990. TASK REPORTS DESCRIBE: EMISSION PROJECTION METHODOLOGY, AIR QUALITY SIMULATION MODEL,EVALUATION & RANKING OF LAND USE PLANS, PLANNING GUIDELINES, & SOFTWARE SYSTEM.

ENTRY NO. 740002

AVAILABLE FROM
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INSTITUTION
AIR POLLUTION GROUP HOOGOVENS IJMUIDEN B.V.
KESSLERPLEIN 1 NL-IJMUIDEN THE NETHERLANDS

TITLE OF PAPER
THE ESTIMATION OF FREQUENCY DISTRIBUTION OF IMMISSION CONCENTRATIONS NEAR A LARGE INDUSTRIAL COMPLEX

LANGUAGE ENGLISH

REPORT NO. SEC/2/E/106/0 NO. OF PAGES 011 DATE OF PUBLICATION 74-02-

NUMBER OF AUTHORS 1 C. ARONDS

DESCRIPTORS

1015	GAUSSIAN MODEL
2011	SULFUR DIOXIDE
3019	LOCAL
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
8117	POINT SOURCE
8320	CONTINUOUS SOURCE
9229	FREQUENCY DISTRIBUTIONS
10014	VALIDATION
11207	LIMITS OF APPLICABILITY

REMARKS/ABSTRACT

CALCULATING FREQUENCY DISTRIBUTIONS FOR IMMISSION CONCENTRATIONS DUE TO AN IRON- & STEELWORKS. COMPUTER MODEL, LOCAL WEATHER DATA, DATA FROM FORMER WIND-TUNNEL STUDY. EFFECT OF CHANGES IN SOURCE STRENGTHS ON FREQUENCY DISTRIBUTION. VALIDATION IN THE HIGH CONCENTRATION RANGE, LARGE DIFFERENCE IN VERY LOW CONCENTRATIONS. NEED FOR FURTHER EXPERIMENTAL DATA TO IMPROVE VALIDITY OF MODEL.

ENTRY NO. 740003

AVAILABLE FROM
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RICHLAND, WASHINGTON 99352 USA

TITLE OF PAPER
SURFACE DEPLETION MODEL FOR DEPOSITION FROM GAUSSIAN PLUME

LANGUAGE ENGLISH

REPORT NO. CONF-740921-7 NO. OF PAGES 014 DATE OF PUBLICATION 74-09-

NUMBER OF AUTHORS . NN .

DESCRIPTORS

1015 GAUSSIAN MODEL
3018 LOCAL
4073 FUNDAMENTAL (RESEARCH, DEVELOPMENT)
6211 SEDIMENTATION / FALL OUT
8117 POINT SOURCE
8320 CONTINUOUS SOURCE
8222 STATIONARY SOURCE

REMARKS/ABSTRACT

GAUSSIAN PLUME MODEL TO DESCRIBE POLLUTANT DIFFUSION DRY DEPOSITION USUALLY MODELLED BY REDUCING SOURCE STRENGTH. NEW MODEL DEPLETES THE PLUME NEAR GROUND RATHER THAN THROUGHOUT VERTICAL EXTENT. OLD MODEL OVERPREDICTS SURFACE AIR POLLUTION AND DEPOSITION DOWNWIND CLOSE TO THE SOURCE AND IS BIASED IN THE OPPOSITE SENSE FOR LOCATIONS FAR FROM THE SOURCE.

ENTRY NO. 740005

AVAILABLE FROM
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BATTELLE-INSTITUT E.V.
AM ROEMERHOF 35 D-6000 FRANKFURT (MAIN) FED. REP. OF GERMANY

TITLE OF PAPER
VERGLEICH VON RECHENMODELLEN ZUR AUSBREITUNGSRECHNUNG,
TEIL 2

LANGUAGE GERMAN

REPORT NO. R-62.185-01 NO. OF PAGES DATE OF PUBLICATION 74-06-

NUMBER OF AUTHORS 3 A. PRAIG K. MICHELMANN

DESCRIPTORS

1015	GAUSSIAN MODEL
2011	SULFUR DIOXIDE
3026	URBAN
3034	REGIONAL
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
5010	DISPERSION PARAMETERS
5037	PLUME RISE
9202	LONG TERM
9237	CHARACTERISTIC VALUES
11100	ADVANTAGES
11207	LIMITS OF APPLICABILITY

REMARKS/ABSTRACT

IN ADDITION TO PART 1 OF THIS INVESTIGATION THE AMBIENT AIR QUALITY OF FRANKFURT/M. IS CALCULATED ONCE MORE APPLYING A MODIFIED AGDM-MODEL WITH NEW MODEL PARAMETERS. CHARACTERISTICS OF GAUSSIAN-, K-THEOTY-, BOX-, AND STATISTICAL MODELS ARE TABULATED. POTENTIAL APPLICATION OF SELECTED MODELS IS DISCUSSED FOR THE INSTANCE OF THE UNTERMAIN REGION WITH DATA BEING INPUT WHICH WERE AVAILABLE AT THAT TIME.

ENTRY NO. 740006

AVAILABLE FROM
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RESOURCE SCIENCE INSTITUTE, A DIVISION OF KAPPA SYSTEMS, INC.
1409 POTTER DRIVE COLORADO SPRINGS, COLORADO 80909 USA

TITLE OF PAPER
1974 AIR QUALITY MODELS FOR THE PIKES PEAK REGION
SUBJECT: AIR QUALITY MODELING

LANGUAGE ENGLISH

REPORT NO. RSI 74-FR-1 NO. OF PAGES 046 DATE OF PUBLICATION 74-08-30

NUMBER OF AUTHORS 1 R. CLAYSON

DESCRIPTORS

1007	MODEL TYPE
3034	REGIONAL
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
8222	STATIONARY SOURCE
11100	ADVANTAGES

REMARKS/ABSTRACT

ACTIVITIES TO IMPLEMENT UPDATED AND IMPROVED VERSION OF PIKES PEAK AIR QUALITY MODEL INITIALLY PREPARED FOR COLORADO SPRINGS REGION. MODEL MODIFIED TO CORRESPOND TO PLUM (PROJECTIVE LAND USE MODEL) ZONES & STATISTICS. SEPARATE STATIONARY SOURCE (STATSO) EMISSIONS MODEL ADAPTED FOR USE WITH PIKES PEAK PLUM & AIR QUALITY MODELS. OUTPUT OF MODELS COMPARED WITH 1972 STUDY AND WITH OBSERVED DATA.

ENTRY NO. 740008

AVAILABLE FROM
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INSTITUTION
VEREIN FUER WASSER-, BODEN- UND LUFTHYGIENE
CORRENSPLATZ 1 D-1000 BERLIN 33 FED. REP. OF GERMANY

TITLE OF PAPER
SIMULATION OF AIR POLLUTANT SPREADING BY MEANS OF A DESK COMPUTER:
STATISTICAL APPLICATION OF MATH.-METEOR. MULTIPLE-SOURCE DIFFUSION M

LANGUAGE ENGLISH

REPORT NO. WABOLU-SCHR.R.NR.41 NO. OF PAGES DATE OF PUBLICATION 74- -

NUMBER OF AUTHORS 1 W. FETT

DESCRIPTORS

1007 MODEL TYPE
2011 SULFUR DIOXIDE
3018 LOCAL
4073 FUNDAMENTAL (RESEARCH, DEVELOPMENT)
5070 MIXING HEIGHT / INVERSION HEIGHT
8435 3-DIMENSIONAL METEOROLOGICAL STATISTICS
8117 POINT SOURCE
9105 SHORT TERM
9229 FREQUENCY DISTRIBUTIONS

REMARKS/ABSTRACT

MODEL SUITABLE TO DETERMINE EFFECT OF UP TO ABOUT 20 SINGLE SOURCES IN SINGLE CASE OR FREQUENCY DISTRIBUTIONS WITH AID OF METEOROL. STATISTICS. IMMISSIONS AUTOMATICALLY CALCULATED, TABULATED AND PLOTTED FOR AN ENTIRE GRID OF CARTOGRAPHIC POINTS. SO2-CONCENTRATIONS IN AMBIENT AIR DUE TO 7 BERLIN POWER PLANTS STUDIED AS AN EXAMPLE. PLANNING OF HYGIENIC MEASURES AND OF AIR POLLUTION CONTROL MEASURES.

ENTRY NO. 740009

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THIEALLEE 49 D-1000 BERLIN 33 FED. REP. OF GERMANY

TITLE OF PAPER
ERARBEITG. EINES KONZEPTS ZUR BESTIMMG. VON AUSBREITGS.PARAMET. AUS TRACEREXPERIMENTEN FUER DIE VERWENDG. IN GAUSS'SCHEN DIFFUSIONSMOD.

LANGUAGE GERMAN

REPORT NO. NO. OF PAGES DATE OF PUBLICATION 74-11-

NUMBER OF AUTHORS 1 D. FROEMMING

DESCRIPTORS

1015	GAUSSIAN MODEL
3018	LOCAL
4057	IN ADDITION TO MEASUREMENTS
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
5010	DISPERSION PARAMETERS
7102	OCCASIONAL VARIATION OF PARAMETERS
8117	POINT SOURCE
8222	STATIONARY SOURCE
8311	DISCONTINUOUS SOURCE
9105	SHORT TERM
10030	PARAMETER DETERMINATION

REMARKS/ABSTRACT

AN INTEGRATED GAUSSIAN PUFF-MODEL IS DESCRIBED, WHICH PERMITS TO SIMULATE THE DISPERSION PROCESS OF A TRACER EXPERIMENT UNDER CONSIDERATION OF OPTIMAL FINITE MEASURING TIMES.
THE COMPUTER-CODE HAS BEEN APPLIED TO A FIRST TRACER EXPERIMENT IN THE FRANKFURT AREA. RESULTS ARE PRESENTED IN TABLES.

ENTRY NO. 740011

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INSTITUTION
NORWEGIAN INSTITUTE FOR AIR RESEARCH
BOX 115 N-2007 KJELLER NORWAY

TITLE OF PAPER
REGLER OG RETNINGSLINJER FOR FASTSETTELSE AV SKORSTEINSHODER

LANGUAGE NORWEGIAN

REPORT NO. OR 85/74 NO. OF PAGES 047 DATE OF PUBLICATION 74-09-

NUMBER OF AUTHORS 1 Y. GOTAAS

DESCRIPTORS

1015	GAUSSIAN MODEL
3018	LOCAL
4022	STACK HEIGHT DETERMINATION
5037	PLUME RISE
5045	TOPOGRAPHY
8117	POINT SOURCE
8222	STATIONARY SOURCE
8320	CONTINUOUS SOURCE
11207	LIMITS OF APPLICABILITY

REMARKS/ABSTRACT

RECOMMENDATIONS, ADVICES AND METHODS FOR CALCULATING MINIMUM PERMISSIBLE STACK HEIGHTS ARE PRESENTED. LIMITATIONS AND DIFFICULTIES DUE TO BUILDING AND TOPOGRAPHY ARE POINTED OUT AND SOME MODIFICATION RULES ARE GIVEN. PLUME RISE AND DISPERSION CALCULATIONS ARE DISCUSSED.

ENTRY NO. 740012

AVAILABLE FROM
SEE INSTITUTION

INSTITUTION
WALDEN RESEARCH DIVISION OF ABCOR, INC.
201 VASSAR STREET CAMBRIDGE, MA. 02139 USA

TITLE OF PAPER
AIR QUALITY IMPACT ANALYSIS OF THE PROPOSED CENTRAL ARTERY
DEPRESSION IN BOSTON, MASSACHUSETTS

LANGUAGE ENGLISH

REPORT NO. C-525 NO. OF PAGES DATE OF PUBLICATION 74-11-

NUMBER OF AUTHORS 1 P. GULDBERG

DESCRIPTORS

1007	MODEL TYPE
2020	CARBON MONOXIDE
3018	LOCAL
4081	URBAN AND REGIONAL PLANNING
9121	MAXIMUM VALUES

REMARKS/ABSTRACT

AIR QUALITY IMPACTS WERE ASSESSED BY MEANS OF SIMULATION MODELING OF 3 DESIGN ALTERNATIVES OF THE PROPOSED CENTRAL ARTERY DEPRESSION IN BOSTON. MAXIMUM 8-HOUR CONCENTRATIONS, MAXIMUM 1-HOUR CONCENTRATIONS OF CO.

ENTRY NO. 740013

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SEE INSTITUTION

INSTITUTION
INSTITUT FUER THEORETISCHE METEOROLOGIE FREIE UNIVERSITAET BERLIN
THIELALLEE 49 D-1000 BERLIN 33 FED. REP. OF GERMANY

TITLE OF PAPER
UNTERSUCHUNGEN M D ZIEL D ERARBEITUNG V KRITERIEN F D STRUKTURIERUNG E EMISSIONSKATASTERS UNTER BERUECKSICHTIGUNG D BELANGE ....

LANGUAGE GERMAN

REPORT NO. NO. OF PAGES DATE OF PUBLICATION 74- -

NUMBER OF AUTHORS 2 B. GUTSCHE P. LENSCHOW

DESCRIPTORS

1015 GAUSSIAN MODEL
3026 URBAN
4073 FUNDAMENTAL (RESEARCH, DEVELOPMENT)
7102 OCCASIONAL VARIATION OF PARAMETERS
9202 LONG TERM

REMARKS/ABSTRACT

CONSEQUENCE OF POLITICAL STATUS OF BERLIN: LACK OF EMISSION DATA FOR EAST BERLIN. BEING ADJACENT ONE TO ANOTHER, SPHERES OF INFLUENCE OF RESPECTIVE IMMISSION FIELDS CLOSELY CONNECTED. IT REQUIRES ESTIMATES OF THESE EMISSIONS AND DETAILED SENSITIVITY ANALYSIS OF URBAN DIFFUSION MODEL WITH RESPECT TO THESE DATA. CRITERIA WORKED OUT ENABLING USER TO DETERMINE REQUIRED ACCURACY IN EMISSION INVENTORY.

ENTRY NO. 740015

AVAILABLE FROM
NEW JERSEY ZINC CO. 2045 CITY LANE ROAD BETHLEHEM, PA. USA

INSTITUTION
TRW TRANSPORTATION AND ENVIRONMENTAL OPERATIONS
800 FOLLIN LANE, S.E. VIENNA, VIRGINIA 22180 USA

TITLE OF PAPER
ANALYSIS OF ALTERNATIVE SITES FOR A NEW ZINC SMELTER NEAR CLARKSVILLE, TENNESSEE

LANGUAGE ENGLISH

REPORT NO. 96271.002 NO. OF PAGES DATE OF PUBLICATION 74-04-01

NUMBER OF AUTHORS 1 F. HAMBURG

DESCRIPTORS

1007	MODEL TYPE
2011	SULFUR DIOXIDE
4014	LICENSING PROCEDURE
5045	TOPOGRAPHY
5070	MIXING HEIGHT / INVERSION HEIGHT
9113	MEAN VALUES
9237	CHARACTERISTIC VALUES

REMARKS/ABSTRACT

POTENTIAL AIR POLLUTION IMPACT UPON NEARBY COMMUNITIES COMPARED FOR TWO ALTERNATIVE LOCATIONS. AMBIENT AIR QUALITY STANDARDS MET AT BOTH SITES. DURING INVERSIONS DANGEREOUS CONCENTRATIONS AVERAGED OVER 3H-PERIODS AND 24H-PERIODS COULD AFFECT SUBURBAN AREAS IF STACK HEIGHT UNDER 400 FEET. METHOD FOR CORRECTING PREDICTED GROUND LEVEL CONCENTRATIONS FOR TERRAIN ELEVATION (HILLY COUNTRY),BUT NOT THE WIND FLOW

ENTRY NO. 740016

AVAILABLE FROM
SEE INSTITUTION

INSTITUTION
SHELL INTERNATIONALE PETROLEUM MAATSCHAPPIJ BV
P.O. BOX 162 NL - THE HAGUE THE NETHERLANDS

TITLE OF PAPER
HET LUCHTVERONTREINIGINGSTRANSMISSIEMODEL 'STACMAP'

LANGUAGE DUTCH

REPORT NO. NO. OF PAGES 022 DATE OF PUBLICATION 74-03-27

NUMBER OF AUTHORS 2 M. HUISMAN C. VERHEUL

DESCRIPTORS

1015	GAUSSIAN MODEL
3034	REGIONAL
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
8117	POINT SOURCE
8133	AREA SOURCE
9105	SHORT TERM
9113	MEAN VALUES
9202	LONG TERM
9229	FREQUENCY DISTRIBUTIONS
9237	CHARACTERISTIC VALUES
10014	VALIDATION
12017	PROGRAM DESCRIPTION

REMARKS/ABSTRACT

GAUSSIAN DISPERSION MODEL BASED ON ELEMENTS FROM LITERATURE. GROUND LEVEL CONCENTRATIONS DUE TO INDIVIDUAL STACKS AND AREA SOURCES CAN BE CALCULATED AS INDIVIDUAL CONCENTRATIONS AND AS TOTAL OF A LARGE NUMBER OF SOURCES. APART FROM LONG-TERM AVERAGES PROGRAM GENERATES SHORT-TERM ONES, FREQUENCY DISTRIBUTIONS & HOUR-TO-HOUR SIMULATION. CALCULATED LONG-TERM AVERAGES COMPARED TO ACTUAL MEASUREMENTS.

ENTRY NO. 740017

AVAILABLE FROM
SEE INSTITUTION

INSTITUTION
HARVARD UNIVERSITY
CAMBRIDGE, MASSACHUSETTS 02139 USA

TITLE OF PAPER
TASSIM: A TRANSPORTATION AND AIR SHED SIMULATION MODEL
VOLUME 1. CASE STUDY OF THE BOSTON REGION

LANGUAGE ENGLISH

REPORT NO. PB-232-933/2 (R.A.) NO. OF PAGES 197 DATE OF PUBLICATION 74-05-

NUMBER OF AUTHORS 2 G. INGRAM G. FAUTH

DESCRIPTORS

1007	MODEL TYPE
2020	CARBON MONOXIDE
3034	REGIONAL
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
4081	URBAN AND REGIONAL PLANNING
12017	PROGRAM DESCRIPTION
10030	PARAMETER DETERMINATION
10014	VALIDATION
11100	ADVANTAGES

REMARKS/ABSTRACT

TASSIM INTEGRATES AN URBAN TRANSPORTATION PLANNING MODEL, VEHICLE EMISSION FACTORS, AND SIMPLE AIR DIFFUSION MODELS IN A SIMULATION FRAMEWORK TO BE USED TO ANALYZE AIR QUALITY EFFECTS OF TRANSPORTATION POLICIES. MODEL IS SPATIALLY DISAGGREGATED AND COMPATIBLE WITH DATA SOURCES AVAILABLE IN METROPOLITAN AREAS. TRANSPORTATION CONTROL POLICIES ARE EVALUATED IN A COST-EFFECTIVENESS FRAMEWORK.

ENTRY NO. 740019

AVAILABLE FROM
SEE INSTITUTION

INSTITUTION
LEHRKANZEL FUER THEORETISCHE METEOROLOGIE DER UNIVERSITAET WIEN
HOHE WARTE 38 A-1190 WIEN AUSTRIA

TITLE OF PAPER
VERWENDUNG SYNOPTISCHER BEOBACHTUNGEN ZUR KLASSIFIKATION DER AUSBREITUNGSBEDINGUNGEN BEI NAECHTLICHEN TEMPERATUR-INVERSIONEN. II

LANGUAGE GERMAN

REPORT NO. PUBL. NO. 11 NO. OF PAGES 028 DATE OF PUBLICATION 74-06-

NUMBER OF AUTHORS 2 H. KOLB H. REUTER

DESCRIPTORS

5029 TURBULENCE CLASSES
5070 MIXING HEIGHT / INVERSION HEIGHT

REMARKS/ABSTRACT

COMPARISON IS MADE BETWEEN THE NEW CLASSIFICATION OF DISPERSION TYPES PROPOSED IN PART I (PUBL. NR. 6) AND THE USUAL TURNER CLASSIFICATION FOR A NUMBER OF SELECTED CASES OF NOCTURNAL INVERSIONS IN VIENNA.

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ENTRY NO. 740020

AVAILABLE FROM
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INSTITUTION
HARVARD UNIVERSITY
CAMBRIDGE, MASSACHUSETTS 02139 USA

TITLE OF PAPER
TASSIM: AN APPLICATION TO LOS ANGELES

LANGUAGE ENGLISH

REPORT NO. DOT-OS-30099-7 NO. OF PAGES DATE OF PUBLICATION 74-11-

NUMBER OF AUTHORS 1 E. KROCH

DESCRIPTORS

1007	MODEL TYPE
2020	CARBON MONOXIDE
3026	URBAN
3034	REGIONAL
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
4081	URBAN AND REGIONAL PLANNING
7102	OCCASIONAL VARIATION OF PARAMETERS
10022	CALIBRATION

REMARKS/ABSTRACT

TASSIM MODEL INTEGRATES AN URBAN TRANSPORTATION PLANNING MODEL, VEHICLE EMISSION FACTORS, AND SIMPLE AIR DIFFUSION MODELS SO AS TO BE USED TO ANALYZE AIR QUALITY EFFECTS OF TRANSPORTATION POLICIES. MODEL IS SPATIALLY DISAGGREGATED INCLUDING 100 TO 200 ZONES AND COMPATIPLE WITH DATA SOURCES AVAILABLE IN METROPOLITAN AREAS. MODEL APPLIED TO LOS ANGELES REGION, CALIBRATION TO REGIONAL DATA.

ENTRY NO. 740023

AVAILABLE FROM
SEE INSTITUTION

INSTITUTION
INSTITUT FUER METEOROLOGIE TECHNISCHE HOCHSCHULE DARMSTADT
HOCHSCHULSTR. 1 D-6100 DARMSTADT FED. REP. OF GERMANY

TITLE OF PAPER
DREIDIMENSIONALE HAEUFIGKEITSVERTEILUNGEN VON WINDGESCHWINDIGKEIT, WINDRICHTUNG UND AUSBREITUNGSKLASSE

LANGUAGE GERMAN

REPORT NO. NO. OF PAGES 150 DATE OF PUBLICATION 74-08-

NUMBER OF AUTHORS 2 G. MANIER E. GRIMM

DESCRIPTORS

1015 GAUSSIAN MODEL
4073 FUNDAMENTAL (RESEARCH, DEVELOPMENT)
8435 3-DIMENSIONAL METEOROLOGICAL STATISTICS

REMARKS/ABSTRACT

FOR MANY AIR POLLUTION PROBLEMS, ESPECIALLY THOSE WITH PLANNING ASPECTS, COMPLETE KNOWLEDGE OF MULTI-DIMENSIONAL FREQUENCY DISTRIBUTIONS OF METEOROLOGICAL DISPERSION CONDITIONS IS IMPORTANT. DISTRIBUTIONS (WIND DIRECTION, WIND FREQUENCY, KLUG'S STABILITY CLASSES) CALCULATED FOR 30 LOCATIONS IN GERMANY SELECTED SO AS TO GET A BROAD SPECTRUM OF DIFFERING FREQUENCY DISTRIBUTIONS. TABLES & DIAGRAMS.

ENTRY NO. 740024

AVAILABLE FROM
SEE INSTITUTION

INSTITUTION
ROYAL NETHERLANDS METEOROLOGICAL INSTITUTE
UTRECHTSEWEG 297 NL-DE BILT 2664

TITLE OF PAPER
HET GAUSSISCHE PLUIMMODEL

LANGUAGE DUTCH

REPORT NO. W.R. 74-15 NO. OF PAGES 055 DATE OF PUBLICATION 74- -

NUMBER OF AUTHORS 1 F. NIEUWSTADT

DESCRIPTORS

1015	GAUSSIAN MODEL
3018	LOCAL
3026	URBAN
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
5010	DISPERSION PARAMETERS
5037	PLUME RISE
5070	MIXING HEIGHT / INVERSION HEIGHT
6106	CHEMICAL TRANSFORMATIONS
6211	SEDIMENTATION / FALL OUT
8117	POINT SOURCE
8133	AREA SOURCE
9105	SHORT TERM
9202	LONG TERM
9229	FREQUENCY DISTRIBUTIONS
11207	LIMITS OF APPLICABILITY

REMARKS/ABSTRACT

THEORETICAL BACKGROUND OF NETHERLANDS METEOROLOGICAL INSTITUTE'S MATHEMATICAL DISPERSION MODEL. TURBULENT DIFFUSION THEORY. GAUSSIAN PLUME MODEL DERIVED, RESTRICTIONS DUE TO NON STATIONARY AND INHOMOGENEOUS ATMOSPHERE DISCUSSED. DISPERSION COEFFICIENTS, OBSERVATION TIME, PLUME RISE, MIXING HEIGHT, WIND VELOCITY, DEPOSITION AND DECAY PROCESSES. FORMULA FOR LONG-TERM AVERAGE CONCENTRATIONS. ATDL-MODEL.

ENTRY NO. 740025

AVAILABLE FROM
SEE INSTITUTION

INSTITUTION
ROYAL NETHERLANDS METEOROLOGICAL INSTITUTE
UTRECHTSEWEG 297 NL-DE BILT-2664

TITLE OF PAPER
STABILITEITSKLASSE-KLIMATOLOGIEEN IN HET GAUSSISCH PLUIMMODEL
(CLIMATOLOGIES OF STABILITY CLASSES IN THE GAUSSIAN PLUME MODEL)

LANGUAGE DUTCH

REPORT NO. V - 258 NO. OF PAGES 007 DATE OF PUBLICATION 74- -

NUMBER OF AUTHORS F. NIEUWSTADT .

DESCRIPTORS

1015 GAUSSIAN MODEL
3018 LOCAL
4073 FUNDAMENTAL (RESEARCH, DEVELOPMENT)
5029 TURBULENCE CLASSES
7102 OCCASIONAL VARIATION OF PARAMETERS
8117 POINT SOURCE
8222 STATIONARY SOURCE
8320 CONTINUOUS SOURCE
9237 CHARACTERISTIC VALUES

REMARKS/ABSTRACT

INFLUENCE OF 3 DIFFERENT DEFINITIONS (PASQUILL MODIFIED FOR NETHERLANDS, TURNER, SMITH) OF STABILITY CLASSES ON THE FREQUENCY OF CLASSES AT AMSTERDAM-AIRPORT. IN TURNER'S AND SMITH' DEFINITIONS STABLE CLASSES MORE OFTEN THAN IN MODIFIED PASQUILL-DEFINITION. EFFECT OF THE DIFFERENT DEFINITIONS ON AVERAGE CONCENTRATION PATTERN AROUND A 100 M STACK IS SMALL.

74<

ENTRY NO. 740026

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INSTITUTION
GCA/TECHNOLOGY DIVISION GCA CORPORATION
BEDFORD, MASSACHUSETTS 01730 USA

TITLE OF PAPER
MONITORING AND ANALYSIS OF CARBON MONOXIDE AND TRAFFIC
CHARACTERISTICS AT OAKBROOK

LANGUAGE ENGLISH

REPORT NO. EPA-450/3-74-058 NO. OF PAGES 469 DATE OF PUBLICATION 74-11-

NUMBER OF AUTHORS 2 R. PATTERSON F. RECORD

DESCRIPTORS

1007 MODEL TYPE
2020 CARBON MONOXIDE
3018 LOCAL
4081 URBAN AND REGIONAL PLANNING
10014 VALIDATION

REMARKS/ABSTRACT

STUDY CONDUCTED TO OBSERVE TRAFFIC AND AMBIENT CONCENTRATIONS AT MAJOR AT-GRADE SIGNALIZED INTERSECTION LOCATED NEAR REGIONAL SHOPPING CENTER. METHOD TO ESTIMATE QUEUE LENGTHS AND EMISSIONS AT INTERSECTION APPROACH DEVELOPED AND USED TO ESTIMATE IMPACT ON CO IMMISSION WITH EPA HIWAY MODEL. 22 OF 27 ESTIMATED IMPACTS AGREE WITHIN FACTOR OF 2 OF OBSERVED ONES. LINEAR CORRELATION WAS SIGNIFICANT.

ENTRY NO. 740027

AVAILABLE FROM
SEE INSTITUTION

INSTITUTION
LEHRKANZEL FUER THEORETISCHE METEOROLOGIE DER UNIVERSITAET WIEN
HOHE WARTE 38 A-1190 WIEN AUSTRIA

TITLE OF PAPER
DIAGRAMME ZUR BESTIMMUNG DER MAXIMALIMMISSIONSKONZENTRATION EINES SCHADSTOFFES BEI VORGEGEBENEN EMISSIONSDATEN UND VERSCHIEDENEN AUSPR

LANGUAGE GERMAN

REPORT NO. PUBL. NR. 10 NO. OF PAGES 021 DATE OF PUBLICATION 74-05-

NUMBER OF AUTHORS 1 H. REUTER

DESCRIPTORS

1015	GAUSSIAN MODEL
3018	LOCAL
4006	APPLICATION
5029	TURBULENCE CLASSES
5037	PLUME RISE
8117	POINT SOURCE
8222	STATIONARY SOURCE
8320	CONTINUOUS SOURCE
9105	SHORT TERM
12009	DOCUMENTATION

REMARKS/ABSTRACT

DIAGRAMS ARE CONSTRUCTED WHICH ALLOW TO DETERMINE THE MAXIMUM IMMISSION CONCENTRATION FOR DIFFERENT DISPERSION CONDITIONS AND WIND SPEED AND GIVEN EMISSION DATA AND STACK HEIGHTS. COLD AS WELL AS BUOYANT PLUMES ARE CONSIDERED.

ENTRY NO. 740028

AVAILABLE FROM
SEE INSTITUTION

INSTITUTION
LEHRKANZEL FUER THEORETISCHE METEOROLOGIE DER UNIVERSITAET WIEN
HOHE WARTE 38 A-1190 WIEN AUSTRIA

TITLE OF PAPER
GRUNDLAGEN EINER IMMISSIONSKLIMATOLOGIE FUER LINZ-HOERSCHING

LANGUAGE GERMAN

REPORT NO. PUBL. NR. 9 NO. OF PAGES 035 DATE OF PUBLICATION 74-03-

NUMBER OF AUTHORS 2 H. REUTER L. PROHASKA

DESCRIPTORS

1015 GAUSSIAN MODEL
3018 LOCAL
4073 FUNDAMENTAL (RESEARCH, DEVELOPMENT)
5029 TURBULENCE CLASSES
8117 POINT SOURCE
8222 STATIONARY SOURCE
8320 CONTINUOUS SOURCE
8435 3-DIMENSIONAL METEOROLOGICAL STATISTICS
9229 FREQUENCY DISTRIBUTIONS
9237 CHARACTERISTIC VALUES

REMARKS/ABSTRACT

THE FREQUENCY DISTRIBUTION OF DISPERSION CLASSES (MODIFIED TURNER CLASSIFICATION) DEPENDENT ON WIND SPEED AND DIRECTION IS DETERMINED USING HALF-HOURLY OBSERVATIONS AT LINZ AIRPORT. FOR A MEDIUM-SIZE SOURCE (STACK HEIGHT 60 M) THE MAXIMUM IMMISSION CONCENTRATION AND THE FREQUENCY DISTRIBUTION OF ITS POSITION IS CALCULATED ON THE BASIS OF THE STATISTICS OF THE DISPERSION CLASSES.

ENTRY NO. 740030

AVAILABLE FROM
  SEE INSTITUTION

INSTITUTION
  NORWEGIAN INSTITUTE FOR AIR RESEARCH
  BOX 115 N-2007 KJELLER NORWAY

TITLE OF PAPER
  PLUME RISE CALCULATIONS

LANGUAGE ENGLISH

REPORT NO. IN 80/74 NO. OF PAGES 016 DATE OF PUBLICATION 74-07-

NUMBER OF AUTHORS 1 B. SIVERTSEN

DESCRIPTORS

1015	GAUSSIAN MODEL
3018	LOCAL
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
5037	PLUME RISE
7102	OCCASIONAL VARIATION OF PARAMETERS
8117	POINT SOURCE
8222	STATIONARY SOURCE
8320	CONTINUOUS SOURCE

REMARKS/ABSTRACT

THE PAPER CONTAINS A DISCUSSION OF DIFFERENT EXISTING PLUME RISE FORMULAE AND DEMONSTRATES THE IMPORTANCE OF A PROPER CHOICE OF PLUME RISE FORMULA WHEN ESTIMATING AIR QUALITY FROM A SPECIFIED SOURCE.

ENTRY NO. 740032

AVAILABLE FROM
SEE INSTITUTION

INSTITUTION
KERNFORSCHUNGSANLAGE JUELICH G.M.B.H.
POSTFACH 1913 D-5170 JUELICH FED. REP. OF GERMANY

TITLE OF PAPER
METEOROLOGISCHE STANDORTKLASSEN IN DER BUNDESREPUBLIK DEUTSCHLAND ALS GRUNDLAGE VON UMWELTPROGNOSEN FUER KERNTECHNISCHE ANLAGEN

LANGUAGE GERMAN

REPORT NO. JUEL-1142-ST NO. OF PAGES 093 DATE OF PUBLICATION 74-12-

NUMBER OF AUTHORS 2 H. BRENK K. VOGT

DESCRIPTORS

1015	GAUSSIAN MODEL
2097	RADIOACTIVE COMPOUNDS
3018	LOCAL
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
4081	URBAN AND REGIONAL PLANNING
5045	TOPOGRAPHY
7102	OCCASIONAL VARIATION OF PARAMETERS
8117	POINT SOURCE
8222	STATIONARY SOURCE
8320	CONTINUOUS SOURCE
8435	3-DIMENSIONAL METEOROLOGICAL STATISTICS
9202	LONG TERM
11100	ADVANTAGES

REMARKS/ABSTRACT

MAKING USE OF ALREADY AVAILABLE 3-DIMENSIONAL METEOROLOGICAL STATISTICS OF 170 GERMAN SITES REGIONS IN THE F.R. OF GERMANY WITH SIMILAR DISPERSIVE CONDITIONS ARE COLLECTED IN CLASSES OF SITES, EACH CHARACTERIZED BY A LONG TERM DISPERSION FUNCTION DEPENDENT ON WIND DIRECTION & SOURCE DISTANCE. MOST IMPORTANT DIFFERENCES CAUSED BY DIFFERENT FREQUENCIES OF WIND DIRECTION I.E. BY LOCAL OROGRAPHY.

ENTRY NO. 740033

AVAILABLE FROM
SEE INSTITUTION

INSTITUTION
NATIONAL AEROSPACE LABORATORY NLR
ANTHONY FOKKERWEG 2 NL-AMSTERDAM 1017 THE NETHERLANDS

TITLE OF PAPER
ANALYSIS OF THE NLR AIRPORTS POLLUTION DISPERSION MODEL ON SENSITIVITY FOR METEOROLOGICAL PARAMETERS AND SOURCES MODELING

LANGUAGE ENGLISH

REPORT NO. NLR TR 75014 U NO. OF PAGES 027 DATE OF PUBLICATION 74- -

NUMBER OF AUTHORS 1 J. TIGGELAAR

DESCRIPTORS

1015	GAUSSIAN MODEL
3018	LOCAL
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
5029	TURBULENCE CLASSES
7200	SYSTEMATICAL VARIATION OF PARAMETERS
8117	POINT SOURCE
8214	MOBILE SOURCE
8311	DISCONTINUOUS SOURCE
8125	LINE SOURCE
9202	LONG TERM

REMARKS/ABSTRACT

IT IS FOUND THAT WEATHER RESOLUTION OF MODEL IS SATISFACTORY. ATMOSPHERIC STABILITY (PASQUILL CLASSES) THE PARAMETER THAT INFLUENCES DISPERSION MOST ESP. THROUGH INFLUENCE ON VERTICAL DISPERSION. METEOROLOGICAL MODELING MOST APPROPRIATE FOR LONG-TERM PREDICTION. TO TREAT AIRPLANES GAUSSIAN PLUME MODIFIED TO A CUT-OFF PLUME (INVERSION). THIS MODELING COMPARED WITH LINE-SOURCE MODELING: SMALL DIFFER.

ENTRY NO. 740034

AVAILABLE FROM
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INSTITUTION
KAMAN SCIENCES CORPORATION
1500 GARDEN OF THE GODS ROAD COLORADO SPRINGS, COLORADO 80907 USA

TITLE OF PAPER
AIR QUALITY CONSIDERATIONS FOR THE I470 SOUTHWEST CIRCUMFERENTIAL ROUTE

LANGUAGE ENGLISH

REPORT NO. K-74-36(U)R NO. OF PAGES DATE OF PUBLICATION 74-04-26

NUMBER OF AUTHORS W. VEIGELE . ET ALII

DESCRIPTORS

1015	GAUSSIAN MODEL
2020	CARBON MONOXIDE
2038	NITROGEN OXIDES
2046	ORGANIC GASES
2070	OXIDANTS
3033	REGIONAL
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
4081	URBAN AND REGIONAL PLANNING
8117	POINT SOURCE
8133	AREA SOURCE
8214	MOBILE SOURCE
8222	STATIONARY SOURCE
9229	FREQUENCY DISTRIBUTIONS
9237	CHARACTERISTIC VALUES

REMARKS/ABSTRACT

AIR POLLUTION MODEL FOR DENVER TO EVALUATE IMPACT OF HIGHWAY PROJECTS. MODEL OF GAUSSIAN PLUME TYPE FOR MOBILE SOURCES TO CALCULATE CO, HC, & NOX. POINT & AREA SOURCES ADDED TO GIVE TOTAL LEVELS. PROPORTIONAL MODEL ADDED TO ESTIMATE HOURLY CONCENTRATIONS OF O3 & THE LOGNORMAL PROCEDURE INCLUDED FOR CALCULATING FREQUENCY OF CONCENTRATIONS EXCEEDING GIVEN VALUES. MODEL COVERS CITY AND REGION OF DENVER

ENTRY NO. 740035

AVAILABLE FROM
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INSTITUTION
NATIONAL AEROSPACE LABORATORY NLR
ANTHONY FOKKERWEG 2 NL-AMSTERDAM 1017

TITLE OF PAPER
POLLUTANT CONCENTRATIONS AT SCHIPHOL AIRPORT DUE TO AIRCRAFT AND CAR TRAFFIC

LANGUAGE

REPORT NO. NO. OF PAGES DATE OF PUBLICATION 74- -

NUMBER OF AUTHORS 1 M. VAN DER WILT

DESCRIPTORS

1015 GAUSSIAN MODEL
3018 LOCAL
4030 CAUSE ANALYSIS
4073 FUNDAMENTAL (RESEARCH, DEVELOPMENT)
5070 MIXING HEIGHT / INVERSION HEIGHT
8117 POINT SOURCE
8125 LINE SOURCE
8133 AREA SOURCE
8435 3-DIMENSIONAL METEOROLOGICAL STATISTICS

REMARKS/ABSTRACT

NLR AIR POLLUTION COMPUTER MODEL DESCRIBED IN NLR TR 73099 U APPLIED TO SCHIPHOL AIRPORT. GROUND LEVEL CONCENTRATIONS OF SOME POLLUTANTS DUE TO AIRCRAFT AND CAR TRAFFIC CALCULATED. COMPARISON BETWEEN THESE CONCENTRATIONS MADE TO REVEAL RELATIVE WEIGHT OF EACH SOURCE. RESULTING CONCENTRATIONS COMPARED WITH SOME THRESHOLD VALUES (MAC, MIC). NOTABLE PART OF CONCENTRATIONS ON AND AROUND AIRPORT DUE TO TRAFFIC.

ENTRY NO. 740037

AVAILABLE FROM
U.S. EPA AIR QUAL.PLAN.& STAND. RES. TRIANGLE PARK, NC. 27711

INSTITUTION
GCA/TECHNOLOGY DIVISION GCA CORPORATION
BEDFORD, MASSACHUSETTS 01730 USA

TITLE OF PAPER
VALIDATION STUDY OF AN APPROACH FOR EVALUATING THE IMPACT OF A SHOPPING CENTER ON AMBIENT CARBON MONOXIDE CONCENTRATIONS

LANGUAGE ENGLISH

REPORT NO. EPA-450/3-74-059 NO. OF PAGES 154 DATE OF PUBLICATION 74-08-

NUMBER OF AUTHORS 6 R. PATTERSON R. BRADWAY

DESCRIPTORS

1007	MODEL TYPE
2020	CARBON MONOXIDE
3018	LOCAL
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
8400	METEOROLOGICAL STATISTICS
9121	MAXIMUM VALUES
10014	VALIDATION
10049	OTHERS

REMARKS/ABSTRACT

RESULTS OF A JOINT TRAFFIC AND CARBON MONOXIDE MONITORING STUDY AT A REGIONAL SHOPPING CENTER, APPLICATION OF THESE RESULTS TO VALIDATION OF PROPOSED APPROACH TO ASSESS SHOPPING CENTERS' AIR QUALITY IMPACT. PROPOSED METHOD UNDERESTIMATES PRE-XMAS PEAK-HOUR TRAFFIC VOLUMES & OVERESTIMATES RUNNING TIMES. PEAK-HOUR CALCULATED CONCENTRATION CORRELATES FAVORABLY WITH OBSERVED ONE, BUT AVERAGES A FACTOR 2 HIGHER.

ENTRY NO. 740038

AVAILABLE FROM
SEE INSTITUTION

INSTITUTION
BAYERISCHES LANDESAMT FUER UMWELTSCHUTZ
ROSENKAVALIERPLATZ 3 D-8000 MUENCHEN 81 FED. REP. OF GERMANY

TITLE OF PAPER
UNTERSUCHUNG DER LUFTHYGIENISCHEN BELASTBARKEIT DES DONAURAUMES
ZWISCHEN INGOLSTADT UND NEUSTADT

LANGUAGE GERMAN

REPORT NO. LUFTREINHALT.HEFT 2 NO. OF PAGES 050 DATE OF PUBLICATION 74-03-

NUMBER OF AUTHORS 3 . KELLNER . RUDOLPH

DESCRIPTORS

1015	GAUSSIAN MODEL
2011	SULFUR DIOXIDE
2054	FLUOR COMPOUNDS
3034	REGIONAL
4057	IN ADDITION TO MEASUREMENTS
4081	URBAN AND REGIONAL PLANNING
5037	PLUME RISE
8222	STATIONARY SOURCE
8320	CONTINUOUS SOURCE
9113	MEAN VALUES
9121	MAXIMUM VALUES
10049	OTHERS

REMARKS/ABSTRACT

PROGNOSIS OF ATMOSPHERIC POLLUTION LOAD WITH SO2 OWING TO PLANNED EXPANSION OF EMITTERS IN THE IMPORTANT EUROPEAN CENTER OF PETROCHEMICAL MANUFACTURING & ENERGY PRODUCTION. COMPARISON WITH RESULTS OF CONTINUOUS SO2-MONITORING SINCE 1964. USE OF NETWORK OF CONIFERS TO RECORD POSSIBLE HARMFUL EFFECTS. MEASURING OF SO2 CONCENTRATIONS IN THE PLUME & COURSE OF PLUME AXIS BY AIR PLANE: PLUME RISE (BRIGGS).

ENTRY NO. 740039

AVAILABLE FROM
SEE INSTITUTION

INSTITUTION
WALDEN RESEARCH DIVISION OF ABCOR, INC.
201 VASSAR STREET CAMBRIDGE, MA. 02139 USA

TITLE OF PAPER
AIR QUALITY IMPACT ANALYSIS OF THE PROPOSED J.F. KENNEDY MEMORIAL LIBRARY

LANGUAGE ENGLISH

REPORT NO. C-584 NO. OF PAGES DATE OF PUBLICATION 74-12-

NUMBER OF AUTHORS 3 R. SIEGEL P. GULDBERG

DESCRIPTORS

1007 MODEL TYPE
2020 CARBON MONOXIDE
3018 LOCAL
4014 LICENSING PROCEDURE
9105 SHORT TERM

REMARKS/ABSTRACT

DETAILED MODELING SIMULATIONS FOR YEAR OF COMPLETION (1978) OF J.F.K LIBRARY COMPLEX & FUTURE STABLE DESIGN YEAR (1981). OBJECTIVE WAS TO EVALUATE MAX. CO-LEVELS DUE TO BOTH ADVERSE METEOR. CONDITIONS & PEAK ROADWAY TRAFFIC. THOUGH MOTOR VEHICLES CONTRIBUTE ALSO TO NO & REACTIVE CH-EMISSIONS, THE PHOTOCHEMIC. REACTIONS OF WHICH PRECLUDE USE OF CURRENT MODELS, CO IS MOST LIKELY TO POSSIBLY EXCEED STANDARD.

ENTRY NO. 740042

AVAILABLE FROM
OFF.OF PLAN.& RES. 1400 10TH STREET, SACRAMENTO, CA. 95814

INSTITUTION
AIR RESOURCES BOARD EVALUATION AND PLANNING
1709 11TH STREET SACRAMENTO, CA. 95814 USA

TITLE OF PAPER
AIR QUALITY, LAND USE AND TRANSPORTATION MODELS - EVALUATION UTILIZATION IN THE PLANNING PROCESS

LANGUAGE ENGLISH

REPORT NO. PB 237 867 (R.A.NO) NO. OF PAGES 167 DATE OF PUBLICATION 74-07-

NUMBER OF AUTHORS 1 . NN .

DESCRIPTORS

1007	MODEL TYPE
3026	URBAN
3034	REGIONAL
4081	URBAN AND REGIONAL PLANNING
11100	ADVANTAGES
11207	LIMITS OF APPLICABILITY
12025	PROGRAM LISTING

REMARKS/ABSTRACT

THIS REPORT IS A GENERAL INTRODUCTION TO THE ART OF LAND USE, TRANSPORTATION, AND AIR QUALITY MODELLING. REPRESENTATIVE APPROACHES TO MODELLING FOR LAND USE, TRANSPORTATION, AND AIR QUALITY ARE EVALUATED INCLUDING DISCUSSIONS OF EACH MODEL'S LIMITATIONS, DATA REQUIREMENTS, OUTPUTS, AND POSSIBLE APPLICATIONS.

ENTRY NO. 740044

AVAILABLE FROM
EBES, BRUSSELS, BELGIUM

INSTITUTION
SCK/CEN
B-2400 MOL, BELGIUM

TITLE OF PAPER
WEERSLAG VAN LANGERBRUGGE 20 OP DE SO2 LUCHTVERONTREINIGING IN DE GENTSE KANAALZONE

LANGUAGE DUTCH

REPORT NO. NO. OF PAGES DATE OF PUBLICATION 74-01-

NUMBER OF AUTHORS . MATH. MODELLING . GROUP OF SCK/CEN

DESCRIPTORS

1015	GAUSSIAN MODEL
2011	SULFUR DIOXIDE
3026	URBAN
4014	LICENSING PROCEDURE
4022	STACK HEIGHT DETERMINATION
8117	POINT SOURCE
8222	STATIONARY SOURCE
8320	CONTINUOUS SOURCE
9229	FREQUENCY DISTRIBUTIONS
10014	VALIDATION

REMARKS/ABSTRACT

CALCULATION WITH IFDM-MODEL OF IMPACT OF NEW UNIT OF POWER STATION IN LANGERBRUGGE UPON SO2-LEVELS IN GENT REGION. COMPARISON BETWEEN MEASURED & CALCULATED VALUES FOR 50- & 95-PERCENTILES OF DAILY SO2-AVERAGES IN SUMMER 72 IN 9 MEASURING STATIONS AROUND POWER STATION. IMPACT OF NEW UNIT DEFINED AS INCREASE IN 50- & 95-PERCENTILE OF THE DAILY SO2-AVERAGES FOR EACH KM2 IN THE ZONE. ONLY INDUSTRIAL SOURCES

ENTRY NO. 740045

AVAILABLE FROM
N.V. PRAYON, ENGIS, BELGIUM

INSTITUTION
SCK/CEN
B-2400 MOL, BELGIUM

TITLE OF PAPER
IMPACT DES USINES DE PRAYON A ENGIS SUR LE FOND DE POLLUTION EN SO2 DE LA REGION

LANGUAGE FRENCH

REPORT NO. NO. OF PAGES DATE OF PUBLICATION 74-01-

NUMBER OF AUTHORS . MATH. MODELLING . GROUP OF SCK/CEN

DESCRIPTORS

1007	MODEL TYPE
2011	SULFUR DIOXIDE
3018	LOCAL
4014	LICENSING PROCEDURE
5045	TOPOGRAPHY
10014	VALIDATION

REMARKS/ABSTRACT

IMPACT OF THE SO2-EMISSION OF THE PRAYON PLANT UPON THE SO2-LEVELS IN THE MEUSE VALLEY AT ENGIS. QUALITATIVE STUDY. CALCULATED AND MEASURED HOT SPOTS WERE IN GOOD AGREEMENT. NEW CHIMNEY SHOWED IMPORTANT (CALCULATED) DECREASE IN THE SO2-LEVELS. TOPOGRAPHY WAS TAKEN INTO ACCOUNT.

ENTRY NO. 740046

AVAILABLE FROM
INTERCOM, BRUSSELS, BELGIUM

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B-2400 MOL, BELGIUM

TITLE OF PAPER
WEERSLAG VAN RUIEN OP 6 OP DE SO2-LUCHTVERONTREINIGING VAN DE STREEK

LANGUAGE DUTCH

REPORT NO. NO. OF PAGES DATE OF PUBLICATION 74-06-

NUMBER OF AUTHORS . MATH. MODELLING . GROUP OF SCK/CEN

DESCRIPTORS

1015 GAUSSIAN MODEL
2011 SULFUR DIOXIDE
3026 URBAN
4014 LICENSING PROCEDURE
5045 TOPOGRAPHY
9237 CHARACTERISTIC VALUES

REMARKS/ABSTRACT

IMPACT OF NEW UNIT OF 300 MW UPON SO2-LEVELS IN RUIEN REGION. QUALITATIVE STUDY COMPARING ACTUAL SITUATION WITH EXPECTED ONE, ONCE NEW UNIT & CHIMNEY WILL BECOME OPERATIONAL, ON BASIS OF SAME METEOR. DATA. IFDM USED TO DETERMINE 50- & 95-PERCENTILES OF DAILY SO2-AVERAGES IN SUMMER 72 IN EACH KM2 OF 17 BY 17 KM2 ZONE. INDUSTRIAL & DOMESTIC EMISSIONS TAKEN INTO ACCOUNT. LOCAL OROGRAPHY ACCOUNTED FOR.

ENTRY NO. 740047

AVAILABLE FROM
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INSTITUTION
LANDESANSTALT FUER IMMISSIONSSCHUTZ DES LANDES NORDRHEIN-WESTFALEN
WALLNEYER STR. 6 D-4300 ESSEN 1 FED. REP. OF GERMANY

TITLE OF PAPER
STAND DER ANWENDUNG VON AUSBREITUNGSMODELLEN ZUR IMMISSIONSPROGNOSE IN DER LIB

LANGUAGE GERMAN

REPORT NO. IN: HEFT 33 SCHR.R. NO. OF PAGES 003 DATE OF PUBLICATION 74- -

NUMBER OF AUTHORS 2 S. KUELSKE J. GIEBEL

DESCRIPTORS

1015	GAUSSIAN MODEL
5029	TURBULENCE CLASSES
5037	PLUME RISE
8222	STATIONARY SOURCE
9202	LONG TERM

REMARKS/ABSTRACT

DISPERSION MODELS AT THE INSTITUTION'S DISPOSAL & THEIR APPLICATION TO AMBIENT AIR SIMULATION ARE DISCUSSED. RESULTS OF MODEL COMPARISON & SENSITIVITY OF PROGNOSIS AGAINST TURBULENCE CLASS SCHEME, SET OF DISPERSION PARAMETERS & PLUME-RISE FORMULA ARE PRESENTED. AFTERALL THE STOCHASTIC CHARACTER IN SPACE & TIME OF THE SIMULATED CONCENTRATIONS & THEIR UNCERTAINTY OF PROGNOSIS ARE POINTED OUT.

ENTRY NO. 740048

AVAILABLE FROM
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INSTITUTION
INSTITUTE FOR ECONOMIC RESEARCH ERASMUS UNIVERSITY
P.O.B. 17 38 ROTTERDAM THE NETHERLANDS

TITLE OF PAPER
PREDICTING AIR POLLUTION LEVELS IN THE RIJNMOND AREA; EXPERIENCE WITH A MULTIPLE SOURCE DISPERSION MODEL

LANGUAGE ENGLISH

REPORT NO. 7503/6 NO. OF PAGES 012 DATE OF PUBLICATION 74- -

NUMBER OF AUTHORS 2 F. MULLER P. LESUIS

DESCRIPTORS

1015 GAUSSIAN MODEL
2011 SULFUR DIOXIDE
3026 URBAN
4073 FUNDAMENTAL (RESEARCH, DEVELOPMENT)
8117 POINT SOURCE
9105 SHORT TERM
9202 LONG TERM
9229 FREQUENCY DISTRIBUTIONS

REMARKS/ABSTRACT

MULTIPLE-SOURCE GAUSSIAN DISPERSION MODEL MADE OPERATIONAL. WITH SO2 EMISSION DATA FROM INDUSTRIAL SOURCES & DETAILED METEOR. OBSERVATIONS AS INPUT, CALCULATED CONCENTRATIONS COMPARED WITH MEASURED ONES IN RIJNMOND AREA DURING SUMMER 71. DEVIATIONS WITHIN 20 P.C. FOR MONTHLY AVERAGES. DAILY AVERAGES & 90- & 97-PERCENTILES PREDICTED WITHIN 30 P.C. LIMIT, TAKEN FOR ALL SAMPLING STATIONS AS AN AVERAGE.

ENTRY NO. 750001

AVAILABLE FROM
SEE INSTITUTION

INSTITUTION
BATTELLE-INSTITUT E.V.
AM ROEMERHOF 35 D-6000 FRANKFURT (MAIN) FED. REP. OF GERMANY

TITLE OF PAPER
VERGLEICH VON RECHENMODELLEN ZUR AUSBREITUNGSRECHNUNG,
TEIL 1

LANGUAGE GERMAN

REPORT NO. R-62.185-01 NO. OF PAGES DATE OF PUBLICATION 75-03-

NUMBER OF AUTHORS 3 A. BRAIG K. MICHELMANN

DESCRIPTORS

1015 GAUSSIAN MODEL
2011 SULFUR DIOXIDE
3034 REGIONAL
4073 FUNDAMENTAL (RESEARCH, DEVELOPMENT)
8427 2-DIMENSIONAL METEOROLOGICAL STATISTICS
8435 3-DIMENSIONAL METEOROLOGICAL STATISTICS
9237 CHARACTERISTIC VALUES
10014 VALIDATION
10022 CALIBRATION
11100 ADVANTAGES
11207 LIMITS OF APPLICABILITY
12017 PROGRAM DESCRIPTION
12025 PROGRAM LISTING

REMARKS/ABSTRACT

MULTIPLE SOURCE URBAN DIFFUSION MODEL AQDM (AIR QUALITY DISPERSION MODEL) & HANNA & GIFFORD'S ATDL-MODEL (AIR RESOURCES ATMOSPH. TURBULENCE & DIFFUSION LABORATORY) WERE APPLIED TO THE FRANKFURT REGION FOR CALCULATING ANNUAL MEAN VALUES OF SO2-AMBIENT AIR QUALITY. THEORETICAL FOUNDATIONS, PROGRAM DESCRIPTION AND RESULTS OF BOTH MODELS ARE PRESENTED.

ENTRY NO. 750002

AVAILABLE FROM
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INSTITUTION
RESOURCE SCIENCE INSTITUTE, A DIVISION OF KAPPA SYSTEMS, INC.
1409 POTTER DRIVE COLORADO SPRINGS, COLORADO 80909 USA

TITLE OF PAPER
1975 AIR QUALITY MODEL IMPROVEMENTS FOR THE PIKES PEAK

LANGUAGE ENGLISH

REPORT NO. RSI 75-4-FR NO. OF PAGES 074 DATE OF PUBLICATION 75-01-16

NUMBER OF AUTHORS 3 E. BRIGGS R. CLAYSON

DESCRIPTORS

3034 REGIONAL
4014 LICENSING PROCEDURE
4073 FUNDAMENTAL (RESEARCH, DEVELOPMENT)
8117 POINT SOURCE
8125 LINE SOURCE
9229 FREQUENCY DISTRIBUTIONS

REMARKS/ABSTRACT

PIKES PEAK AIR QUALITY (PPAQ) MODEL MODIFIED TO COMPUTE AN OVERALL AIR QUALITY INDEX & EXPECTED NUMBERS OF VIOLATIONS OF SHORT-TERM AIR QUALITY STANDARDS & TO FACILITATE EVALUATION OF INDIRECT SOURCES. EMISSIONS INVENTORY UPDATED. OUTPUT COMPARED WITH RESULTS OF PREVIOUS RUNS AND WITH OBSERVED DATA SUPPLIED BY THE CITY/COUNTY HEALTH DEPARTMENT. CONCLUSIONS AND RECOMMENDATIONS.

ENTRY NO. 750003

AVAILABLE FROM
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INSTITUTION
OSSERVATORIO METEOROLOGICO DI BRERA PROVINCIA DI MILANO,
LABORATORIO PROVINCIALE DI IGIENE E PROFILASSI

TITLE OF PAPER
ABOUT A DIFFUSION MODEL FOR A WEAK ATMOSPHERIC CIRCULATION ON URBAN AREA - MILAN ITALY -

LANGUAGE ENGLISH

REPORT NO. NO. OF PAGES DATE OF PUBLICATION 75- -

NUMBER OF AUTHORS 5 C. CANTONI A. CAVALLARO

DESCRIPTORS

1015	GAUSSIAN MODEL
2011	SULFUR DIOXIDE
3026	URBAN
7102	OCCASIONAL VARIATION OF PARAMETERS
8311	DISCONTINUOUS SOURCE
8320	CONTINUOUS SOURCE
8400	METEOROLOGICAL STATISTICS
9105	SHORT TERM
9202	LONG TERM
10014	VALIDATION

REMARKS/ABSTRACT

SIMULATING MILAN ATMOSPHERE DYNAMIC BEHAVIOUR, VALUING DISPERSION PARAMETERS, ANALYSING SEASONAL TREND OF INPUT DATA AND ITS INFLUENCE ON CACULATED VALUES, USING GIFFORD HANNA MODEL. RESULTS FOR THE COLD PERIOD NOVEMBER 74 TO MARCH 75 ARE FAVOURABLE: BOTH THE SHORT PERIOD (12H) AS WELL AS THE LONG TERM (MONTH) ONES. FLAT OROGRAPHY, SUFFICIENT METEOROLOGICAL INFORMATION. VALUES COMPARED TO MEASURED ONES.

ENTRY NO. 750004

AVAILABLE FROM
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INSTITUTION
RESOURCE SCIENCE INSTITUTE, A DIVISION OF KAPPA SYSTEMS, INC.
1409 POTTER DRIVE COLORADO SPRINGS, COLORADO 80909 USA

TITLE OF PAPER
MODIFICATION AND APPLICATION OF THE DAQ AND PXWIND COMPUTER MODELS

LANGUAGE ENGLISH

REPORT NO. RSI-75-28-CM NO. OF PAGES DATE OF PUBLICATION 75-06-04

NUMBER OF AUTHORS 3 R. CLAYSON E. BRIGGS

DESCRIPTORS

1007	MODEL TYPE
2020	CARBON MONOXIDE
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
8125	LINE SOURCE
3018	LOCAL
9113	MEAN VALUES
11100	ADVANTAGES
12017	PROGRAM DESCRIPTION

REMARKS/ABSTRACT

DENVER AIR QUALITY M. MODIFIED TO FACILITATE USE BY HIGHWAY DEPARTM. PERSONNEL. CALCULATION OF HOURLY CONCENTRATIONS FOR SMALL REGIONS SIMPLIFIED, EXISTING PXWIND LINE SOURCE MODEL IMPROVED TO CALCULATE CO ON HIGHWAY & DOWNWIND FROM HIGHWAY. GUIDELINES FOR INTEGRATED USE OF PXWIND AND DAQ MODEL DEVELOPED. DESIGN OF SIMPLE, EFFICIENT SMALL AREA MODEL 'LOCALAIR' TO REPLACE PXWIND FOR MOST APPLICATIONS.

ENTRY NO. 750005

AVAILABLE FROM
SEE INSTITUTION

INSTITUTION
LABORATORY FOR TECHNICAL PHYSICS TECHNICAL UNIVERSITY
LORENTZWEG NL - DELFT

TITLE OF PAPER
LUCHTVERONTREINIGING DOOR STIKSTOFOXYDEN IN STEDELIJKE GEBIEDEN:
EEN WISKUNDIG MODEL TER BEREKENING VAN DE HEERSENDE CONCENTRATIES

LANGUAGE DUTCH

REPORT NO. NO. OF PAGES 070 DATE OF PUPLICATION 75-10-

NUMBER OF AUTHORS 1 P. VAN COOTEN

DESCRIPTORS

1015	GAUSSIAN MODEL
2038	NITROGEN OXIDES
3026	URBAN
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
8133	AREA SOURCE
9113	MEAN VALUES
9202	LONG TERM
9229	FREQUENCY DISTRIBUTIONS
9237	CHARACTERISTIC VALUES
10014	VALIDATION

REMARKS/ABSTRACT

MODEL TO CALCULATE NOX CONCENTRATIONS IN URBAN AREAS FROM TRAFFIC AND INDUSTRY, SPACE-HEATING MODEL MADE SUITABLE FOR NOX. MODEL APPLIED TO EINDHOVEN, LEIDEN MAASSLUIS AND HOOGVLIET. SOURCE STRENGTHS DETERMINED FROM STATISTICAL DATA. ANNUAL AND MONTHLY AVERAGES AND A CUMULATIVE FREQUENCY DISTRIBUTION OF HOURLY MEANS. COMPARISON WITH MEASUREMENTS: REASONABLY ACCURATE, IF NOX-BACKGROUND IS ALLOWED FOR.

ENTRY NO. 750008

AVAILABLE FROM
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INSTITUTION
NORWEGIAN INSTITUTE FOR AIR RESEARCH
BOX 115 N-2007 KJELLER NORWAY

TITLE OF PAPER
BRUK AV METEOROLOGISKE BAKKEOBSERVASJONER TIL KLASSIFISERING AV SPREDNINGSFORHOLD I ATMOSFEREN. EN LITTERATUROVERSIKT.

LANGUAGE NORWEGIAN

REPORT NO. TN 8/75 NO. OF PAGES 025 DATE OF PUBLICATION 75-09-

NUMBER OF AUTHORS 1 H. DOVLAND

DESCRIPTORS

5010 DISPERSION PARAMETERS
5029 TURBULENCE CLASSES

REMARKS/ABSTRACT

A LITERATURE SURVEY ON CLASSIFYING DISPERSION PARAMETERS BY USE OF GROUND LEVEL METEOROLOGICAL OBSERVATIONS IS CARRIED OUT. THE METHODS ARE TO A LARGE EXTENT BASED ON DEPENDENCE OF TURBULENCE ON SUN ELEVATION, CLOUD COVER AND WIND SPEED.

ENTRY NO. 750009

AVAILABLE FROM
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INSTITUTION
TUEV RHEINLAND POSTFACH 101750
D-5000 KOELN 1 W.-GERMANY

TITLE OF PAPER
IMMISSIONSPROGNOSE FUER LUFTVERUNREINIGENDE STOFFE
KOELN 1975 VERLAG TUEV RHEINLAND GMBH

LANGUAGE

REPORT NO. NO. OF PAGES DATE OF PUBLICATION 75- -

NUMBER OF AUTHORS 5 F. DREYHAUPT L. KROPP

DESCRIPTORS

1015	GAUSSIAN MODEL
3018	LOCAL
4014	LICENSING PROCEDURE
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
5010	DISPERSION PARAMETERS
5029	TURBULENCE CLASSES
5037	PLUME RISE
8117	POINT SOURCE
8222	STATIONARY SOURCE
8320	CONTINUOUS SOURCE
8435	3-DIMENSIONAL METEOROLOGICAL STATISTICS
9210	CONCENTRATION FIELD
9229	FREQUENCY DISTRIBUTIONS

REMARKS/ABSTRACT

PROCEEDINGS OF A SYMPOSIUM ON IMMISSION PREDICTION HELD IN COLOGNE DEC. 9, 1974 ABOUT [IMMISSION PREDICTION AS AN INSTRUMENT FOR THE LICENSING PROCEDURE[, [BASICS OF MODELING[, [APPLICATION OF MODELING TO IMMISSION PREDICTION[, [DETERMINATION OF OVERALL IMMISSION FROM ACTUAL CONCETRATIONS AND FORECASTED CONCENTRATIONS[, AND [IMMISSION STANDARDS FOR INJURIOUS AND TROUBLING EFFECTS OF ORGANIC COMPOUNDS[

ENTRY NO. 750011

AVAILABLE FROM
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INSTITUTION
NORWEGIAN INSTITUTE FOR AIR RESEARCH
BOX 115 N-2007 KJELLER NORWAY

TITLE OF PAPER
A TWO-LAYER DISPERSION MODEL: DESCRIPTION AND A FEW RESULTS
(WITHIN OECD COOPERATIVE TECHNICAL PROGRAM TO MEASURE LONG RANGE TR)

LANGUAGE ENGLISH

REPORT NO. LRTAP 5/75 NO. OF PAGES 019 DATE OF PUBLICATION 75-04-

NUMBER OF AUTHORS 2 A. ELIASSEN J. SALTBONES

DESCRIPTORS

1007 MODEL TYPE
3042 LONG DISTANCE
4073 FUNDAMENTAL (RESEARCH, DEVELOPMENT)
8508 WIND VARIANCE IN SPACE
9008 MODEL OUTPUT

REMARKS/ABSTRACT

THE PAPER GIVES A DESCRIPTION OF A TWO-LAYER DISPERSION MODEL FOR LONG RANGE TRANSPORT OF AIR POLLUTANTS. THE GRID NET DISTANCE IS 127 KM AND THE TOTAL THICKNESS OF THE TWO LAYERS HAS BEEN SET TO 1 KM. SO2-EMISSIONS IN EUROPE HAVE BEEN SEPARATED INTO EMISSIONS OF HIGH AND LOW SOURCES. COMPUTED CONCENTRATIONS ARE PRESENTED AND DISCUSSED.

ENTRY NO. 750013

AVAILABLE FROM
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INSTITUTION
OSSERVATORIO METEOROLOGICO DI BRERA PROVINCIA DI MILANO.
LABORATORIO PROVINCIALE DI IGIENE E PROFILASSI

TITLE OF PAPER
PRELIMINARY REPORT ABOUT A DIFFUSION MODEL FOR MILANO (ITALY) URBAN AREA: GIFFORD HANNA MODEL

LANGUAGE ENGLISH

REPORT NO. NO. OF PAGES DATE OF PUBLICATION 75- -

NUMBER OF AUTHORS 3 G. ERMINI CANTONI R. GUALDI

DESCRIPTORS

1015	GAUSSIAN MODEL
2011	SULFUR DIOXIDE
3026	URBAN
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
5061	LOW WIND SPEED
5070	MIXING HEIGHT / INVERSION HEIGHT
5029	TURBULENCE CLASSES
10014	VALIDATION

REMARKS/ABSTRACT

IN MILAN AREA FREQUENT CALM PERIODS AND LOW WIND SITUATIONS, VERTICAL MOTION OFTEN, CHIEFLY IN WINTER MONTHS, INHIBITED BY PERSISTENT INVERSIONS. TO SCHEDULE A CONTROL SYSTEM AND FORECAST AIR POLLUTION EPISODES GIFFORD-HANNA MODEL USED. PROGRESS ACCORDING TO DELIVERY OF DATA BY 13 SO2-MONITORS, 5 ONES TO RECORD TEMPERATURE, WIND SPEED & DIRECTION, & ONE THERMIC LAPSE RATE. CORRELATION: OBSERVED/COMPUTED.

ENTRY NO. 750015

AVAILABLE FROM
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INSTITUTION
DFVLR-INSTITUT FUER PHYSIK DER ATMOSPHAERE

TITLE OF PAPER
MATH.-METOR. SIMULATION D IMMISSIONSKLIMATOLOGIE IM WATT U AUF DEM FESTLAND A D ELBMUENDUNG INFOLGE D INDUSTRIEANSIEDLUNG IM GEBIET

LANGUAGE GERMAN

REPORT NO. NO. OF PAGES DATE OF PUBLICATION 75- -

NUMBER OF AUTHORS 1 H. FORTAK .

DESCRIPTORS

1015 GAUSSIAN MODEL
3018 LOCAL
4081 URBAN AND REGIONAL PLANNING
4022 STACK HEIGHT DETERMINATION
8435 3-DIMENSIONAL METEOROLOGICAL STATISTICS
9237 CHARACTERISTIC VALUES

REMARKS/ABSTRACT

MODEL SIMULATION PREDICTS AIR POLLUTION CLIMATOLOGY OF THE SURROUNDING OF PLANNED DEEP-SEA HARBOUR NEUWERK/SCHARHOERN. TOTAL EMISSION RATE: 10 TO/H ASSUMED, OPTIMAL SOLUTION OF PLANNING PROBLEM: TO LINE UP 5 STACKS EACH 300 M HIGH AT 1 KM INTERVALS IN SW TO NO DIRECTION. COMPARED WITH OTHER SOURCE DISTRIBUTIONS THIS CONFIGURATION GIVES MINIMUM CONCENTRATION LEVELS: M.V.<5 MYG/M3; 97,5-PERC.<50 MYG/M3.

ENTRY NO. 750017

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INSTITUT FUER THEORETISCHE METEOROLOGIE FREIE UNIVERSITAET BERLIN
THIELALLEE 49 D-1000 BERLIN 33 FED. REP. OF GERMANY

TITLE OF PAPER
IMMISSIONSKLIMATOL. UNTERSUCHUNGEN DER LUFTVERUNREINIGUNGSSITUATION
DER REGION UNTERMAIN UNTER VERWENDUNG DES FORTAKSCHEN AUSBREITUNGSM.

LANGUAGE GERMAN

REPORT NO. RPU PROGRESS REP. 6 NO. OF PAGES DATE OF PUBLICATION 75- -

NUMBER OF AUTHORS 3 H. FORTAK B. GUTSCHE

DESCRIPTORS

1015	GAUSSIAN MODEL
2011	SULFUR DIOXIDE
3026	URBAN
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
5045	TOPOGRAPHY
5061	LOW WIND SPEED
8435	3-DIMENSIONAL METEOROLOGICAL STATISTICS
9237	CHARACTERISTIC VALUES
10014	VALIDATION
11207	LIMITS OF APPLICABILITY

REMARKS/ABSTRACT

FORTAK'S MULTIPLE-SOURCE URBAN DIFFUSION MODEL APPLIED TO FRANKFURT AREA, CHARACTERIZED BY GREAT EFFECTS OF TOPOGRAPHY AND FREQUENT CALM AND WEAK-WIND SITUATIONS AND BEING A GOOD TEST AREA FOR MODELING. IT IS SEEN THAT IN SPITE OF THESE COMPLEX CONDITIONS ANNUAL MEAN VALUES ARE PREDICTED BY THE MODEL WITH SUCCESS, BUT CUMULATIVE FREQUENCY DISTRIBUTIONS NOT LIKEWISE. THESE ARE MORE APT FOR MODEL VALIDATION.

ENTRY NO. 750018

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INSTITUTION
INSTITUT FUER THEORETISCHE METEOROLOGIE FREIE UNIVERSITAET BERLIN
THIELALLEE 49 D-1000 BERLIN 33 FED. REP. OF GERMANY

TITLE OF PAPER
EIN VERFAHREN ZUR VERWENDUNG EINES INTEGRIERTEN GAUSS'SCHEN PUFFMODELLS BEI D ERMITTLUNG V DIFFUSIONSPARAMETERN IN TRACEREXPERIMENTEN

LANGUAGE GERMAN

REPORT NO. NO. OF PAGES 107 DATE OF PUBLICATION 75- -

NUMBER OF AUTHORS 1 D. FROEMMING

DESCRIPTORS

1015	GAUSSIAN MODEL
3018	LOCAL
4057	IN ADDITION TO MEASUREMENTS
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
5010	DISPERSION PARAMETERS
7102	OCCASIONAL VARIATION OF PARAMETERS
8117	POINT SOURCE
8222	STATIONARY SOURCE
8311	DISCONTINUOUS SOURCE
9105	SHORT TERM
10030	PARAMETER DETERMINATION

REMARKS/ABSTRACT

PURPOSE OF THIS INVESTIGATION: TO DEVELOP INTEGRATED GAUSSIAN PUFF-MODEL, WHICH PERMITS TO SIMULATE DISPERSION PROCESS OF TRACER EXPERIMENT UNDER CONSIDERATION OF OPTIMAL FINITE MEASURING TIMES. APPLYING THIS MODEL TO ACTUAL TRACER EXPERIMENTS VALUES FOR PARAMETERS IN GAUSSIAN MODELS CAN BE DERIVED. AFTER VERIFICATION THE MODEL CAN BE A HELP FOR OPTIMAL PLANNING OF FURTHER TRACER EXPERIMENTS.

ENTRY NO. 750019

AVAILABLE FROM
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INSTITUTION
NORWEGIAN INSTITUTE FOR AIR RESEARCH
BOX 115 N-2007 KJELLER NORWAY

TITLE OF PAPER
CURRENT AND FUTURE NEEDS FOR AIR QUALITY SIMULATION MODELS

LANGUAGE ENGLISH

REPORT NO. OR 5/75 NO. OF PAGES 095 DATE OF PUBLICATION 75-03-

NUMBER OF AUTHORS 1 K. GRONSKEI

DESCRIPTORS

1007 MODEL TYPE
7200 SYSTEMATICAL VARIATION OF PARAMETERS
10014 VALIDATION

REMARKS/ABSTRACT

LITERATURE STUDY OF CURRENT USE OF MODELS & OF INFORMATION REQUIREMENTS BY LAW AND ADMINISTRATION. THE DESCRIPTION GIVEN BY REFERRING TO REQUIRED TEMPORAL AND SPATIAL RESOLUTION OF THE RESULTS AND THE REQUIREMENTS FOR SOURCE SPECIFICATION. 6 DIFFERENT AREAS OF APPLICATIONS CONSIDERED. VALIDATION OF AIR QUALITY MODELS, SYSTEMATIC USE OF MODELS' RESPONSE TO VARIATIONS IN INPUT PARAMETERS.

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ENTRY NO. 750020

INSTITUTION
NORWEGIAN INSTITUTE FOR AIR RESEARCH
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TITLE OF PAPER
REGNEMASKINPROGRAMMET HNTEL. EN BESKRIVELSE AV PROGRAMMET SOM BEREGNER AREALKILDENES BIDRAG TIL LUFTFORURENSNINGENE

LANGUAGE NORWEGIAN

REPORT NO. TN 15/75

NO. OF PAGES 033 DATE OF PUBLICATION 75-09-

NUMBER OF AUTHORS 1

K. GRONSKEI

DESCRIPTORS

1007	MODEL TYPE
3026	URBAN
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
8133	AREA SOURCE
8508	WIND VARIANCE IN SPACE
12017	PROGRAM DESCRIPTION

REMARKS/ABSTRACT

THE PAPER GIVES A DESCRIPTION OF A COMPUTER PROGRAM WHICH CALCULATES THE AIR POLLUTION DISTRIBUTION DUE TO EMISSIONS FROM AREA SOURCES. A 3-DIMENSIONAL MODEL FOR CALCULATING THE TRANSPORT OF AIR POLLUTANTS IN AN URBAN AREA IS APPLIED TO AN INDUSTRIAL AREA OF NORWAY. EMISSIONS ARE ALSO CALCULATED.

ENTRY NO. 750021

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NORWEGIAN INSTITUTE FOR AIR RESEARCH
BOX 115 N-2007 KJELLER NORWAY

TITLE OF PAPER
TRAFFIKALE FORURENSNINGER I OSLOOMRADET (BEREGNINGER OG VURDERINGER AV MIDDELKONSENTRASJONEN FOR HVER KM2 UNDER FORURENSNINGSPERIODER).

LANGUAGE NORWEGIAN

REPORT NO. TN 4/75 NO. OF PAGES 014 DATE OF PUBLICATION 75-03-

NUMBER OF AUTHORS 1 K. GRONSKEI

DESCRIPTORS

1007	MODEL TYPE
2020	CARBON MONOXIDE
2038	NITROGEN OXIDES
3026	URBAN
4049	SCHEDULING OF MEASUREMENTS
9105	SHORT TERM

REMARKS/ABSTRACT

SPATIAL DIFFUSION OF AIR POLLUTION DUE TO TRAFFIC IN THE OSLO AREA IS PRESENTED. DISPERSION MODELS ARE APPLIED TO ESTIMATED EMISSIONS DURING WELL KNOWN METEOROLOGICAL SITUATIONS. THE DISPERSION ESTIMATES ARE COMPARED WITH MEASURED CONCENTRATIONS OF NO2 AND CO. THE CALCULATIONS ARE USED FOR PLANNING OF FUTURE MEASUREMENTS.

ENTRY NO. 750022

AVAILABLE FROM
U.S. EPA AIR QUAL.PLANN.&STAND. RES. TRIANGLE PARK N.C. 27711

INSTITUTION
WALDEN RESEARCH DIVISION OF ABCOR, INC.
201 VASSAR STREET CAMBRIDGE, MA. 02139 USA

TITLE OF PAPER
TECHNICAL SUPPORT TO THE STATE OF RHODE ISLAND ON DEVELOPMENT OF AN AIR QUALITY MAINTENANCE PLAN (AQMP) .

LANGUAGE ENGLISH

REPORT NO. EPA-901/9-75-001 NO. OF PAGES 172 DATE OF PUBLICATION 75-09-

NUMBER OF AUTHORS 3 P. GULDBERG B. KEMERER

DESCRIPTORS

1015 GAUSSIAN MODEL
2011 SULFUR DIOXIDE
2062 PARTICLES
3034 REGIONAL
4081 URBAN AND REGIONAL PLANNING
9237 CHARACTERISTIC VALUES
10014 VALIDATION
10022 CALIBRATION

REMARKS/ABSTRACT

MODELING ANALYSIS PREPARING AQMP FOR STATE OF RHODE ISLAND. CDM, DEVELOPED BY EPA, USED TO PROJECT FUTURE AIR QUALITY, TO TEST MAINTENANCE STRATEGIES, TO DETERMINE AREAS WHERE STANDARDS FOR SO2 OR TSP WILL BE EXCEEDED & TO EVALUATE CONTROL STRATEGIES WHICH WILL INSURE MAINTENANCE OF STANDARDS IN THESE AREAS THROUGH 1985. EMISSIONS INVENTORY FOR THE STATE WAS UPDATED. 1974 AIR QUALITY MEASUREMENTS.

ENTRY NO. 750023

AVAILABLE FROM
POTOMAC ELECTRIC POWER CO. WASHINGTON, D.C. 20006 USA

INSTITUTION
TRW ENVIRONMENTAL SERVICES
800 FOLLIN LANE, S.E. VIENNA, VA. 22180 USA

TITLE OF PAPER
CONTRIBUTIONS OF BENNING PLANT OPERATIONS TO AMBIENT AIR CONCENTRATIONS OF PARTICULATES WITHIN THE DISTRICT OF COLUMBIA

LANGUAGE ENGLISH

REPORT NO. 86266.75X NO. OF PAGES DATE OF PUBLICATION 75-07-

NUMBER OF AUTHORS 1 F. HAMBURG .

DESCRIPTORS

1015	GAUSSIAN MODEL
2062	PARTICLES
4030	CAUSE ANALYSIS
9237	CHARACTERISTIC VALUES
10014	VALIDATION

REMARKS/ABSTRACT

CONTRIBUTION TO AMBIENT AIR CONCENTRATIONS OF TSP WITHIN THE DISTR. OF COLUMBIA DUE TO BENNING GENERATING STATION OF PEPCO DETERMINED BY AQDM BASED ON DATA OF 1973. MAXIMUM ANNUAL AVERAGE CONCENTRATION OF 3 MYG/M3 PREDICTED, AT POINT OF OCCURRENCE 3.5 % OF TOTAL CONCENTRATION OF TSP. PREDICTED VALUES PROBABLY HIGHER THAN TRUE ONES BY AT LEAST 50%. COMPARISON WITH CDM PREDICTION FOR THE SAME INPUT DATA.

ENTRY NO. 750024

AVAILABLE FROM
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INSTITUTION
TRW ENVIRONMENTAL SERVICES
800 FOLLIN LANE, S.E. VIENNA, VIRGINIA 22180 USA

TITLE OF PAPER
PREDICTED AIR POLLUTION IMPACT OF CHALK POINT GENERATING STATION OPERATIONS WITH ALTERNATIVE CONFIGURATIONS AND FUEL SULFUR CONTENT

LANGUAGE ENGLISH

REPORT NO. 96266.752 NO. OF PAGES DATE OF PUBLICATION 75-11-14

NUMBER OF AUTHORS 1 F. HAMBURG

DESCRIPTORS

1007	MODEL TYPE
2011	SULFUR DIOXIDE
2062	PARTICLES
3018	LOCAL
4014	LICENSING PROCEDURE
9237	CHARACTERISTIC VALUES

REMARKS/ABSTRACT

AIR POLLUTION IMPACT OF CHALK POINT GENERATING STATION PREDICTED FOR 32 ALTERNATIVES UNDER CONSIDERATION. ALTERNATIVES CENTER ON USE OF 1.0% OR 2.0% SULFUR FUEL, USE OF UPGRADED PRECIPITATORS OR PARTICULATE SCRUBBERS WITH OR WITHOUT RETROFIT WITH A SINGLE TALL STACK, OF FULL WATER SCRUBBERS, FULL MAG-OX SCRUBBERS. PROCOS LOADING PROJECTIONS AND SIMULATION MODELING USED.

ENTRY NO. 750025

AVAILABLE FROM
STADT KARLSRUHE BAUDEZERNAT PF. 6260 D-7500 KARLSRUHE

INSTITUTION
METEOROLOGISCHES INSTITUT UNIVERSITAET KARLSRUHE
KAISERSTR. 12 D-7500 KARLSRUHE FED. REP. OF GERMANY

TITLE OF PAPER
DIE AUSBREITUNG DER ABLUFT EINER UNTERIRDISCHEN GROSSGARAGE

LANGUAGE GERMAN

REPORT NO. NO. OF PAGES DATE OF PUBLICATION 75-12-

NUMBER OF AUTHORS 1 K. HOESCHELE .

DESCRIPTORS

1015 GAUSSIAN MODEL
2020 CARBON MONOXIDE
3018 LOCAL
4014 LICENSING PROCEDURE
5010 DISPERSION PARAMETERS
8117 POINT SOURCE
8222 STATIONARY SOURCE

REMARKS/ABSTRACT

A PLANNED UNDERGROUND-GARAGE WITH 400 STALLS AS AN EXAMPLE FOR THE DISPERSION OF EXHAUST GAS FROM A GROUND SOURCE, WHICH IS ASSUMED TO BE A POINT SOURCE. RESULTING CONCENTRATION DISTRIBUTION IS GAUSSIAN WITH INDIVIDUAL PARAMETERS ADAPTED TO LOW LEVEL CONDITIONS. AMBIENT AIR QUALITY IN DRIVE WAYS ESTIMATED TOO. ON THIS BASIS, AN ASSESSMENT OF PRESENT AND FUTURE AIR POLLUTION LOAD IS UNDERTAKEN.

ENTRY NO. 750026

AVAILABLE FROM
U.S. ENERGY RES. & DEVELOPM. ADMIN., WASHINGTON, D.C. 20545

INSTITUTION
BATTELLE, PACIFIC NORTHWEST LABORATORIES
RICHLAND, WASHINGTON 99352 USA

TITLE OF PAPER
THE RESUSPENSION OF MATERIAL DISPERSED BY ATMOSPHERIC DIFFUSION FROM A POINT SOURCE

LANGUAGE ENGLISH

REPORT NO. BNWL-1964, UC-70 NO. OF PAGES 055 DATE OF PUBLICATION 75-12-

NUMBER OF AUTHORS 1 T. HORST

DESCRIPTORS

1015 GAUSSIAN MODEL
3018 LOCAL
4073 FUNDAMENTAL (RESEARCH, DEVELOPMENT)
6211 SEDIMENTATION / FALL OUT
8117 POINT SOURCE

REMARKS/ABSTRACT

MATHEMATICAL ANALYSIS OF RESUSPENSION OF MATERIAL INITIALLY DEPOSITED ON GROUND CONSEQUENT TO ATMOSPHERIC DIFFUSION FROM A SURFACE POINT SOURCE. CONCLUDED THAT AIR CONCENTRATN. OF INITIAL PLUME WITHOUT DEPLETION DUE TO DEPOSITION IN GENERAL GREATER THAN SUM OF AIR CONCENTRATIONS OF DEPLETED INITIAL PLUME AND RESUSPENSED PLUME. REDEPOSITION AND SUBSEQUENT ADDITIONAL RESUSPENSION NEGLECTED.

ENTRY NO. 750027

AVAILABLE FROM
SEE INSTITUTION

INSTITUTION
LEHRKANZEL FUER THEORETISCHE METEOROLOGIE DER UNIVERSITAET WIEN
HOHE WARTE 38 A-1190 WIEN AUSTRIA

TITLE OF PAPER
IMMISSIONSKLIMATOLOGIE VON GRAZ

LANGUAGE GERMAN

REPORT NO. PUBL. NR. 15 NO. OF PAGES DATE OF PUBLICATION 75-12-

NUMBER OF AUTHORS 1 H. KOLB

DESCRIPTORS

1015	GAUSSIAN MODEL
3018	LOCAL
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
8117	POINT SOURCE
8222	STATIONARY SOURCE
8320	CONTINUOUS SOURCE
8435	3-DIMENSIONAL METEOROLOGICAL STATISTICS
9121	MAXIMUM VALUES
9229	FREQUENCY DISTRIBUTIONS
10030	PARAMETER DETERMINATION

REMARKS/ABSTRACT

FREQUENCY DISTRIBUTION OF DISPERSION CLASSES (MODIFIED TURNER CLASSIFICATION) DEPENDENT ON WIND SPEED & DIRECTION DETERMINED USING HALF-HOURLY OBSERVATIONS AT GRAZ AIRPORT (1968-1973). FOR MEDIUM SIZE SOURCE MAXIMUM IMMISSION & FREQUENCY DISTRIBUTION OF THEIR POSITION CALCULATED. MEAN IMMISSIONS FOR THE WHOLE PERIOD AND FREQUENCY OF CONCENTRATIONS EXCEEDING GIVEN VALUES ARE PRESENTED.

ENTRY NO. 750028

AVAILABLE FROM
SEE INSTITUTION

INSTITUTION
LEHRKANZEL FUER THEORETISCHE METEOROLOGIE DER UNIVERSITAET WIEN
HOHE WARTE 38 A-1190 WIEN AUSTRIA

TITLE OF PAPER
IMMISSIONSKLIMATOLOGIE VON SALZBURG

LANGUAGE GERMAN

REPORT NO. PUBL. NR. 12 NO. OF PAGES 040 DATE OF PUBLICATION 75-03-

NUMBER OF AUTHORS 1 H. KOLB .

DESCRIPTORS

1015	GAUSSIAN MODEL
3018	LOCAL
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
8117	POINT SOURCE
8222	STATIONARY SOURCE
8320	CONTINUOUS SOURCE
8435	3-DIMENSIONAL METEOROLOGICAL STATISTICS
9121	MAXIMUM VALUES
9229	FREQUENCY DISTRIBUTIONS
10030	PARAMETER DETERMINATION

REMARKS/ABSTRACT

FREQUENCY DISTRIBUTION OF DISPERSION CLASSES (MODIFIED TURNER CLASSIFICATION) DEPENDENT ON WIND SPEED & DIRECTION DETERMINED USING HALF-HOURLY OBSERVATIONS AT SALZBURG AIRPORT (1972-73). FOR MEDIUM SIZE SOURCE MAXIMUM IMMISSION AND FREQUENCY DISTRIBUTION OF THEIR POSITION CALCULATED. MEAN IMMISSIONS FOR THE WHOLE PERIOD AND FREQUENCY OF CONCENTRATIONS EXCEEDING GIVEN VALUES ARE PRESENTED

ENTRY NO. 750029

AVAILABLE FROM
SEE INSTITUTION

INSTITUTION
AGRICULTURAL UNIVERSITY, DEP. OF ENVIRONMENTAL SCIENCES, SECTION AIR
POLLUTION N-BINNENHAVEN 12/ WAGENINGEN/ NETHERLANDS

TITLE OF PAPER
VERSPREIDINGSONDERZOEK MET DE TRACER SF6. DE VERSPREIDING VAN SF6
UIT EEN MIDDELHOGE BRON IN EEN GEACCIDENTEERD TERREIN

LANGUAGE DUTCH

REPORT NO. V-44 NO. OF PAGES 077 DATE OF PUBLICATION 75- -

NUMBER OF AUTHORS 2 J. LASEUR J. POODT

DESCRIPTORS

1015	GAUSSIAN MODEL
2054	FLUOR COMPOUNDS
2100	INERT GASES
3018	LOCAL
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
5029	TURBULENCE CLASSES
5053	ROUGHNESS OF GROUND
8117	POINT SOURCE
8222	STATIONARY SOURCE
8320	CONTINUOUS SOURCE
9105	SHORT TERM
10014	VALIDATION
10022	CALIBRATION

REMARKS/ABSTRACT

GASEOUS AIR POLLUTANTS FROM 41 M HIGH SOURCE TRACED WITH SF6 UNDER NEUTRAL ATMOSPHERIC CONDITIONS. AT 20 MEASURING POINTS AIR SAMPLED FOR 30 MIN. EACH EXPERIMENT COMPLETED IN 2 H. DISPERSION MEASURED AT 300-1100 M FROM SOURCE AND THE ONE CALULATED WITH GAUSSIAN PLUME MODEL FOR CONTINUOUS SOURCE (SUTTON EQU.) SAME ORDER OF MAGNITUDE. PLUME CENTERLINE DETERMINED BY CALIBRATION OF DISPERSION PROFILE.

ENTRY NO. 750030

AVAILABLE FROM
SEE INSTITUTION

INSTITUTION
NATIONAL TECHNICAL INFORMATION SERVICE
5285 PORT ROYAL ROAD SPRINGFIELD, VA. 22161 USA

TITLE OF PAPER
URBAN AIR POLLUTION (A BIBLIOGRAPHY WITH ABSTRACTS)

LANGUAGE ENGLISH

REPORT NO. NTIS/PS-75/545 NO. OF PAGES DATE OF PUBLICATION 75-07-

NUMBER OF AUTHORS 1 E. LEHMANN

DESCRIPTORS

1007 MODEL TYPE
3026 URBAN
4081 URBAN AND REGIONAL PLANNING

REMARKS/ABSTRACT

CITED ARE REPORTS ON URBAN AIR POLLUTION AND ITS ABATEMENT. STUDIES SELECTED TO BE OF GENERAL INTEREST TO URBAN PLANNERS TO ALLOW THEM TO BECOME AWARE OF NEW ABATEMENT STRATEGIES AND TECHNIQUES. MAJORITY OF STUDIES COVERS VARIOUS ASPECTS OF TRANSPORTATION EMISSIONS. OTHER TOPICS INCLUDE HEALTH STANDARDS, ATMOSPHERIC MODELS TO AID IN PLANNING, LAW ENFORCEMENT, ABATEMENT POLICIES, NEW MODES OF TRANSPORT.

ENTRY NO. 750032

AVAILABLE FROM
SEE INSTITUTION

INSTITUTION
ROYAL NETHERLANDS METEOROLOGICAL INSTITUTE
UTRECHTSEWEG 297 NL - DE BILT - 2664 THE NETHERLANDS

TITLE OF PAPER
STABILITEITSKLASSEN EN DISPERSIECOEFFICIENTEN
(STABILITY CLASSES AND DISPERSION COEFFICIENTS)

LANGUAGE DUTCH

REPORT NO. W.R. 75-3 NO. OF PAGES 036 DATE OF PUBLICATION 75- -

NUMBER OF AUTHORS 1 F. NIEUWSTADT

DESCRIPTORS

1015 GAUSSIAN MODEL
3018 LOCAL
4073 FUNDAMENTAL (RESEARCH, DEVELOPMENT)
5010 DISPERSION PARAMETERS
5029 TURBULENCE CLASSES

REMARKS/ABSTRACT

COMPARATIVE STUDY OF STABILITY CLASS DEFINITIONS OF PASQUILL, TURNER KNMI, KLUG, SINGER-SMITH, AND BULTYNCK ET AL. AND OF RELATED DISPERSION COEFFICIENTS (SIGMAS). THOSE OF PASQUILL, TURNER AND KLUG ARE BASED ON TESTS WITH LOW SOURCES, THOSE OF SINGER-SMITH & OF BULTYNCK ET AL. WITH HIGH SOURCES. IN GAUSSIAN PLUME MODEL FOR LOW SOURCES (<50M) PASQUILL-COEFFICIENTS, FOR HIGH ONES SINGER-SMITH PARAMETERS.

ENTRY NO. 750033

AVAILABLE FROM
  SEE INSTITUTION

INSTITUTION
  ROYAL NETHERLANDS METEOROLOGICAL INSTITUTE
  UTRECHTSEWEG 297 NL-DE BILT-2664 THE NETHERLANDS

TITLE OF PAPER
  HET GEBRUIK VAN WINDPERSISTENTIEGEGEVENS VOOR HET BEREKENEN VAN KONCENTRATIESTATISTIEKEN

LANGUAGE DUTCH

REPORT NO. W.R. 75-9 NO. OF PAGES 020 DATE OF PUBLICATION 75- -

NUMBER OF AUTHORS 1 F. NIEUWSTADT

DESCRIPTORS

1015	GAUSSIAN MODEL
2097	RADIOACTIVE COMPOUNDS
3018	LOCAL
4081	URBAN AND REGIONAL PLANNING
8117	POINT SOURCE
8222	STATIONARY SOURCE
9105	SHORT TERM
9202	LONG TERM
9229	FREQUENCY DISTRIBUTIONS

REMARKS/ABSTRACT

FOR ZONING PURPOSES AROUND NUCLEAR PLANTS FREQUENCY DISTRIBUTION OF DILUTION FACTORS FOR DIFFERENT AVERAGING TIMES (FROM ONE HOUR TO SEVERAL DAYS) MUST BE KNOWN. METHOD BASED ON GAUSSIAN PLUME MODEL AND ON WIND-PERSISTENCE DATA USED TO CALCULATE THESE STATISTICS. THE METHOD IS EXTENSIVELY DISCUSSED IN AN APPENDIX. SEVERAL RESULTS CALCULATED USING THIS METHOD AND PRESENTED IN FORM OF TABLES AND FIGURES.

ENTRY NO. 750034

AVAILABLE FROM
U.S. EPA AIR QUAL.PLANN.&STAND. RES. TRIANGLE PARK N.C. 27711

INSTITUTION
GCA/TECHNOLOGY DIVISION GCA CORPORATION
BEDFORD, MASSACHUSETTS 01730 USA

TITLE OF PAPER
PHOTOCHEMICAL OXIDANT MODELING: VOLUME II -DETAILED TECHNICAL REPORT

LANGUAGE ENGLISH

REPORT NO. EPA-450/3-75-069-B NO. OF PAGES 148 DATE OF PUBLICATION 75-04-

NUMBER OF AUTHORS 6 R. PATTERSON M. MILLS

DESCRIPTORS

1007	MODEL TYPE
1015	GAUSSIAN MODEL
2070	OXIDANTS
3026	URBAN
4081	URBAN AND REGIONAL PLANNING
6106	CHEMICAL TRANSFORMATIONS
8214	MOBILE SOURCE

REMARKS/ABSTRACT

REVIEW AND ANALYSIS ACTIVITIES TO SUPPORT EPA GOAL TO DEVELOP GUIDELINES FOR ASSESSING OXIDANT AIR QUALITY IMPACT OF HIGHWAY DEVELOPMENT UNDER 3-C PLANNING PROCESS. TECHNIQUES AND COMPUTER MODELS TO ESTIMATE MOBILE SOURCE EMISSIONS, SUMMARY OF OXIDANT FORMATION PROCESSES, OXIDANT MODELING ACTIVITIES WITH DIFKIN AND GIFFORD-HANNA PHOTOCHEMICAL MODELS, TEST RUN OF 109(J) AND OTHER GUIDELINES.

ENTRY NO. 750036

AVAILABLE FROM
SEE INSTITUTION

INSTITUTION
TEXAS AIR CONTROL BOARD
8520 SHOAL CREEK BLVD. AUSTIN, TEXAS 78758 USA

TITLE OF PAPER
DISPERSION EQUATION SOLUTIONS BY CALCULATOR
A GUIDE FOR AIR POLLUTION ENGINEERS AND SCIENTISTS

LANGUAGE ENGLISH

REPORT NO. NO. OF PAGES DATE OF PUBLICATION 75-11-

NUMBER OF AUTHORS 1 R. PORTER

DESCRIPTORS

1015	GAUSSIAN MODEL
3018	LOCAL
4006	APPLICATION
5037	PLUME RISE
8117	POINT SOURCE
8222	STATIONARY SOURCE
8320	CONTINUOUS SOURCE
9202	LONG TERM
12009	DOCUMENTATION

REMARKS/ABSTRACT

FORMULAE, TECHNIQUES, AND TABLES FOR SOLUTION OF PLUME RISE (BRIGGS) AND DISPERSION EQUATION (GAUSSIAN) PROBLEMS. WITH THE TABLES OF THE REPORT DISPERSION EQUATION SOLVED QUICKLY AND EASILY USING SIMPLE POCKET ELECTRONIC CALCULATOR. EQUATIONS AND TABLES TO CALCULATE LOCATION AND MAGNITUDE OF MAXIMUM CONCENTRATION FROM GIVEN STACK. METEOROLOGY FOR THE TABLES BASED ON PASQUILL-GIFFORD STABILITY CLASSES

ENTRY NO. 750037

AVAILABLE FROM
GOVERNOR'S ENERGY ADVISORY COUNCIL, AUSTIN, TEXAS 78701 USA

INSTITUTION
METEOROLOGY SECTION TEXAS AIR CONTROL BOARD
8520 SHOAL CREEK BLVD. AUSTIN, TEXAS 78758 USA

TITLE OF PAPER
POTENTIAL FOR DESIGNATING SELECTIVE EMISSIONS STANDARDS BY AIR POLLUTION CONTROL BASED ON AN ANALYSIS OF CLIMATOLOG. REGIONS IN TEXAS

LANGUAGE ENGLISH

REPORT NO. E/S-4 NO. OF PAGES DATE OF PUBLICATION 75-01-

NUMBER OF AUTHORS 4 R. PORTER J. WOOD

DESCRIPTORS

1015	GAUSSIAN MODEL
3034	REGIONAL
4014	LICENSING PROCEDURE
9237	CHARACTERISTIC VALUES
10014	VALIDATION
10022	CALIBRATION

REMARKS/ABSTRACT
CLIMATOLOGIC. DATA EXAMINED WITH DIFFERENT ANALYSIS TECHNIQUES, COMPARED WITH RESULTS OF PARAMETRIC DIFFUSION MODELING. THE JOINT RESULTS USED TO SELECT REGIONS AND SEASONS WHEN AIR POLLUTION EMISSION STANDARDS COULD BE RELAXED WITHOUT DANGER OF APPROACHING THE AMBIENT AIR STANDARDS. MODELS EXERCISED IN THE STUDY: THE AIR QUALITY DISPLAY MODEL & THE TEXAS CLIMATOLOGICAL MODEL (FAST AIR QUALITY MOD.).

ENTRY NO. 750038

AVAILABLE FROM
U.S. EPA AIR QUAL.PLANN.&STAND. RES. TRIANGLE PARK N.C. 27711

INSTITUTION
GCA/TECHNOLOGY DIVISION GCA CORPORATION
BEDFORD, MASSACHUSETTS 01730 USA

TITLE OF PAPER
PHOTOCHEMICAL OXIDANT MODELING: VOLUME I - TECHNIQUES APPLICABLE TO HIGHWAY SYSTEM EVALUATION

LANGUAGE ENGLISH

REPORT NO. EPA-450/3-75-069-A NO. OF PAGES 105 DATE OF PUBLICATION 75-04-

NUMBER OF AUTHORS 4 F. RECORD R. PATTERSON

DESCRIPTORS

1007 MODEL TYPE
1015 GAUSSIAN MODEL
2070 OXIDANTS
3026 URBAN
4081 URBAN AND REGIONAL PLANNING
6106 CHEMICAL TRANSFORMATIONS
8214 MOBILE SOURCE
11100 ADVANTAGES
11207 LIMITS OF APPLICABILITY

REMARKS/ABSTRACT

PHOTOCHEM. OXIDANT AIR QUALITY IMPACT OF HIGHWAY SYSTEM MODIFICATION OR DEVELOPMENT. 5 ATTRIBUTES OF 8 MODELING TECHNIQUES: (1) VMT CHANGE; (2) LINEAR ROLLBACK; (3) NONLINEAR ROLLBACK; (4) GIFFORD-HANNA PHOTOCHEM. MODEL; (5) STATIST. RELATIONSHIPS: REPRO-MODELING; (6) REACTIVE ENVIRONMENTAL SIMULATION MODEL; (7) DIFFUSION KINETICS MODEL; (8) URBAN AIR SHED PHOTOCHEMICAL SIMULATION MODEL.

ENTRY NO. 750039

AVAILABLE FROM
AIR FORCE WEAPONS LAB KIRTLAND AIR FORCE BASE, N.MEXICO 87117

INSTITUTION
ENERGY AND ENVIRONMENTAL SYSTEMS DIVISION ARGONNE NATIONAL LAB
ARGONNE, ILLINOIS 60439 USA

TITLE OF PAPER
A GENERALIZED AIR QUALITY ASSESSMENT MODEL FOR AIR FORCE OPERATIONS

LANGUAGE ENGLISH

REPORT NO. AFWL-TR-74-304 NO. OF PAGES DATE OF PUBLICATION 75-02-

NUMBER OF AUTHORS 3 D. ROTE L. WANGEN

DESCRIPTORS

1015	GAUSSIAN MODEL
3018	LOCAL
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
8214	MOBILE SOURCE
9105	SHORT TERM
9202	LONG TERM

REMARKS/ABSTRACT

AQAM IS TO ASSESS IMPACT OF AIR FORCE OPERATIONS ON AIR ENVIRONMENT AT AIR BASE LEVEL. PROGRAM TO COMPUTE POLLUTION EMISSIONS AND SUBSEQUENT DISPERSAL. SIMULATION OF AIRCRAFT OPERATIONS, TEMPORAL & SPATIAL MODELING OF POLLUTANT EMISSIONS, DISPERSION MODELS BASED ON THE GAUSSIAN PLUME MODEL AND RELATED SUBJECTS. PROGRAM CONTAINS A SHORT-TERM DISPERSION MODEL AND A CLIMATOLOGICAL ONE BASED ON AQDM.

ENTRY NO. 750040

AVAILABLE FROM
SEE INSTITUTION

INSTITUTION
IBM SCIENTIFIC CENTER
DORSODURO 3228, I-30122 VENEZIA ITALY

TITLE OF PAPER
AN APPLICATION OF AIR POLLUTION MODELS TO THE VENETIAN AREA

LANGUAGE ENGLISH

REPORT NO. IBM TECHN.REP.NO.48 NO. OF PAGES 037 DATE OF PUBLICATION 76-03-01

NUMBER OF AUTHORS 3 E. RUNCA P. MELLI

DESCRIPTORS

1007 MODEL TYPE
1015 GAUSSIAN MODEL
2011 SULFUR DIOXIDE
2100 INERT GASES
3034 REGIONAL
4073 FUNDAMENTAL (RESEARCH, DEVELOPMENT)
5029 TURBULENCE CLASSES
5053 ROUGHNESS OF GROUND
9237 CHARACTERISTIC VALUES
10014 VALIDATION

REMARKS/ABSTRACT

SIMULATING DISPERSION OF NON-REACTIVE POLLUTANT WITH 2 DIFFUSION MODELS: GAUSSIAN MODEL AND NUMERICAL INTEGRATION OF DIFFUSION EQUATION IN K-THEORY. WITH HOURLY METEOROLOGICAL DATA AND AVERAGE URBAN AND INDUSTRIAL EMISSIONS 3-MONTH AND ANNUAL AVERAGE SO2-CONCENTRATIONS ARE COMPUTED FOR PERIOD FEBR. 73 TO FEBR. 75. SURFACE ROUGHNESS AND HEAT ISLAND EFFECTS ALLOWED FOR, MODIFYING PASQUILL'S CLASSIFICATION

ENTRY NO. 750041

AVAILABLE FROM
GRENLANDREGIONENS SEKRETARIAT FYLKESHUSET N-3700 SKIEN

INSTITUTION
NORWEGIAN INSTITUTE FOR AIR RESEARCH
BOX 115 N-2007 KJELLER NORWAY

TITLE OF PAPER
SPREDNINGSMONSTER VED LOKAL LUFTFORURENSNING I GRENLAND-REGIONEN

LANGUAGE NORWEGIAN

REPORT NO. OR 6/75 NO. OF PAGES 057 DATE OF PUBLICATION 75-03-

NUMBER OF AUTHORS 1 B. SIVERTSEN

DESCRIPTORS

1015	GAUSSIAN MODEL
3034	REGIONAL
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
4081	URBAN AND REGIONAL PLANNING
5029	TURBULENCE CLASSES
5045	TOPOGRAPHY
8117	POINT SOURCE
8133	AREA SOURCE
8222	STATIONARY SOURCE
9237	CHARACTERISTIC VALUES

REMARKS/ABSTRACT

DISPERSION CONDITIONS STUDIED ON METEOROL. DATA FROM STATIONS IN THE AREA. LOCAL WIND PATTERNS RELATED TO WIND AT REFERENCE STATION. WIND FREQUENCY DISTRIBUTS. FOR SHORTER PERIODS RELATED 'NORMAL' WIND DISTRIBUTION. RELATIONSHIP BETWEEN OBSERVED SMOKE DISPERSION AND TRANSPORT AND OBSERVED WIND AND LAPSE RATE (STABILITY) ESTABLISHED TO EVALUATE TYPICAL WIND/STABILITY-FREQUENCY DISTRIBUTION.

ENTRY NO. 750042

AVAILABLE FROM
SEE INSTITUTION

INSTITUTION
SMITH-SINGER METEOROLOGISTS, INC.
134 BROADWAY, N.Y. 11701 USA

TITLE OF PAPER
STATEMENT AT THE NATIONAL GOVERNORS' CONFERENCE ON COAL UTILIZATION
SCRUBBERS AND OTHER OPTIONS

LANGUAGE ENGLISH

REPORT NO. NO. OF PAGES 015 DATE OF PUBLICATION 75-11-18

NUMBER OF AUTHORS 1 M. SMITH .

DESCRIPTORS

2011 SULFUR DIOXIDE
3034 REGIONAL
3042 LONG DISTANCE
4073 FUNDAMENTAL (RESEARCH, DEVELOPMENT)
6106 CHEMICAL TRANSFORMATIONS

REMARKS/ABSTRACT

AIR SAMPLING DATA NEAR 14 POWER PLANTS INDICATE THERE IS NO SO2-PROBLEM IN AMERICAN ELECTRIC POWER SYSTEM. AIR QUALITY STANDARDS HAVE BEEN MET DUE TO TALL STACKS. EPA CONTENDS THAT THESE DELAY REMOVAL OF SO2 FROM ATMOSPHERE, LEAVING MORE OF THE GAS FOR CONVERSION TO SULFATES. BUT NO DIFFERENCE BETWEEN TALL AND SHORT STACKS IN THEIR INFLUENCE ON SO2-REMOVAL RATES HAS BEEN FOUND.

ENTRY NO. 750043

AVAILABLE FROM
SEE INSTITUTION

INSTITUTION
INSTITUT FUER THEORETISCHE METEOROLOGIE FREIE UNIVERSITAET BERLIN
THIELALLEE 49 D-1000 BERLIN 33 FED. REP. OF GERMANY

TITLE OF PAPER
MODELL- UND PROGRAMMBESCHREIBUNG DES FORTAK'SCHEN VIEL-QUELLEN-DIFFUSIONSMODELLS

LANGUAGE GERMAN

REPORT NO. NO. OF PAGES DATE OF PUBLICATION 75- -

NUMBER OF AUTHORS 1 R. STERN

DESCRIPTORS

1015 GAUSSIAN MODEL
3026 URBAN
4073 FUNDAMENTAL (RESEARCH, DEVELOPMENT)
12025 PROGRAM LISTING

REMARKS/ABSTRACT

A DETAILED DESCRIPTION OF FORTAK'S MULTIPLE-SOURCE URBAN DIFFUSION MODEL IS PRESENTED, INCLUDING A DISCUSSION OF UNDERLYING THEORIES AND PRINCIPLES. THE COMPLETE COMPUTER-PROGRAM (FORTRAN IV) IS LISTED AND COMPREHENSIVE OPERATOR INSTRUCTIONS FOR MODEL APPLICATION ARE GIVEN.

ENTRY NO. 750044

AVAILABLE FROM
SEE INSTITUTION

INSTITUTION
BATTELLE-INSTITUTE E.V.
AM ROEMERHOF 35 D-6000 FRANKFURT/MAIN FED. REP. OF GERMANY

TITLE OF PAPER
VERGLEICH VON RECHENMODELLEN ZUR AUSBREITUNGSRECHNUNG. TEIL 3
(COMPARISON OF POLLUTANT DISPERSION SIMULATION MODELS. PART 3)

LANGUAGE GERMAN

REPORT NO. R-162.185-01 NO. OF PAGES DATE OF PUBLICATION 75-02-

NUMBER OF AUTHORS 4 J. STROTT A. BRAIG

DESCRIPTORS

1015 GAUSSIAN MODEL
3018 LOCAL
4022 STACK HEIGHT DETERMINATION
5037 PLUME RISE
5045 TOPOGRAPHY
8117 POINT SOURCE
8222 STATIONARY SOURCE
8320 CONTINUOUS SOURCE
12025 PROGRAM LISTING

REMARKS/ABSTRACT

EXAMINATION, ADAPTATION, AND MODIFICATION OF GUIDELINE VDI-2289 NO.1 (REQUIRED STACK HEIGHT); NO.2 (ALLOWANCE FOR BUILDINGS); NO.3 (ALLOWANCE FOR NATURAL OBSTACLES) WITH REGARD TO THE STATE OF THE ART.

MODIFICATIONS OF NO.1 AND NO.3 RESTRICTED TO INCORPORATION OF SOME DIAGRAMS (DEPENDING ON CLIMATOLOGICAL REGIONS) AND CORRESPONDING USER'S GUIDE. NO.2 REFORMULATED. COMPUTER PROGRAMS PRESENTED.

ENTRY NO. 750045

AVAILABLE FROM
SEE INSTITUTION

INSTITUTION
BATTELLE INSTITUT E.V.
AM ROEMERHOF 35 D-6000 FRANKFURT/MAIN FED. REP. OF GERMANY

TITLE OF PAPER
VERGLEICH VON RECHENMODELLEN ZUR AUSBREITUNGSRECHNUNG. TEIL 4
(COMPARISON OF POLLUTANT DISPERSION SIMULATION MODELS. PART 4)

LANGUAGE GERMAN

REPORT NO. R-62.185-01 NO. OF PAGES DATE OF PUBLICATION 75-06-

NUMBER OF AUTHORS 4 J. STROTT A. BRAIG

DESCRIPTORS

1015	GAUSSIAN MODEL
3026	URBAN
4014	LICENSING PROCEDURE
4081	URBAN AND REGIONAL PLANNING
9237	CHARACTERISTIC VALUES
12017	PROGRAM DESCRIPTION

REMARKS/ABSTRACT

REPORT DESCRIBES DIFFUSION MODELS AQDM, CDM, ATDL WHICH HAVE BEEN PREPARED FOR ROUTINE APPLICATIONS. CALCULATED CONCENTRATIONS FOR THE FRANKFURT AREA PRESENTED. COMPUTER PROGRAMS ARE MODIFIED SO THAT MODEL OUTPUT IS CONSISTENT WITH THE NEW GERMAN TECHNICAL INSTRUCTIONS FOR MAINTAINING AIR PURITY (TA LUFT) OF AUGUST 28, 1974.
ALL MODELS ARE DOCUMENTED COMPREHENSIVELY.

ENTRY NO. 750046

AVAILABLE FROM
SEE INSTITUTION

INSTITUTION
ROYAL NETHERLANDS METEOROLOGICAL INSTITUTE
UTRECHTSEWEG 297 NL-DE BILT-2664

TITLE OF PAPER
HANDLEIDING VOOR HET COMPUTERPROGRAMMA VAN HET GAUSSISCHE PLUIMMODEL
(MANUAL FOR THE COMPUTER PROGRAM OF THE GAUSSIAN PLUME MODEL)

LANGUAGE DUTCH

REPORT NO. W.R. 75-7 NO. OF PAGES 074 DATE OF PUBLICATION 75- -

NUMBER OF AUTHORS 2 E. VERMAAS F. NIEUWSTADT

DESCRIPTORS

1015 GAUSSIAN MODEL
8117 POINT SOURCE
8133 AREA SOURCE
9202 LONG TERM
12017 PROGRAM DESCRIPTION
12025 PROGRAM LISTING

REMARKS/ABSTRACT

MODEL DEVELOPED BY RNMI PROGRAMMED IN ALGOL TO CALCULATE LONG-TERM AVERAGED CONCENTRATIONS FROM POINT AND AREA SOURCES. DIFFERENT PARTS OF PROGRAM DISCUSSED AND MANUAL GIVEN FOR USE OF PROGRAM. STRUCTURE OF PROGRAM DESCRIBED; INPUT OF PROGRAM DISCUSSED IN GENERAL FORM, SEVERAL EXAMPLES OF INPUT GIVEN. INPUT PARAMETERS OF MODEL GIVEN AND OUTPUT OF PROGRAM DESCRIBED. LAST CHAPTER CONTAINS PROGRAM LISTING.

ENTRY NO. 750047

AVAILABLE FROM
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INSTITUTION
IBM SCIENTIFIC CENTER
DORSODURO 3228, I-30122 VENEZIA ITALY

TITLE OF PAPER
VALIDITA DELLA APPLICAZIONE DI UN MODELLO GAUSSIANO DI TIPO CLIMATOLOGICO NELL' AREA VENEZIANA

LANGUAGE ITALIAN

REPORT NO. NO. OF PAGES 007 DATE OF PUBLICATION 75-05-05

NUMBER OF AUTHORS 2 P. ZANNETTI E. RUNCA

DESCRIPTORS

1015	GAUSSIAN MODEL
2011	SULFUR DIOXIDE
3034	REGIONAL
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
8117	POINT SOURCE
8222	STATIONARY SOURCE
8400	METEOROLOGICAL STATISTICS
9237	CHARACTERISTIC VALUES
10014	VALIDATION

REMARKS/ABSTRACT

TEST OF POSSIBILITY TO DESCRIBE ATMOSPHERIC POLLUTANT DISPERSION IN VENETIAN AREA WITH A GAUSSIAN DIFFUSION MODEL. IT HAS BEEN APPLIED TO SIMULATE SO2 IMMISSION FIELD DUE TO INDUSTRIAL EMISSIONS OF POINT SOURCES. WITH METEOROLOGICAL DATA RECORDED ON HOURLY BASIS AND ABOVE MENTIONED EMISSION DATA SO2 MONTHLY AVERAGE IMMISSIONS COMPUTED FOR NON-HEATING SEASON. VALIDATION: CORRELATION COEFFICIENT EQUALS 0.847

ENTRY NO. 750048

AVAILABLE FROM
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INSTITUTION
NAT. ENVIRONM. RESEARCH CTR. OFFICE OF RESEARCH & DEVELOPM. U.S. EPA
RESEARCH TRIANGLE PARK, N.C. 27711 USA

TITLE OF PAPER
USER'S GUIDE FOR HIWAY: A HIGHWAY AIR POLLUTION MODEL

LANGUAGE ENGLISH

REPORT NO. EPA-650/4-74-008 NO. OF PAGES 074 DATE OF PUBLICATION 75-02-

NUMBER OF AUTHORS 2 J. ZIMMERMAN R. THOMPSON

DESCRIPTORS

1015	GAUSSIAN MODEL
2100	INERT GASES
3018	LOCAL
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
4061	URBAN AND REGIONAL PLANNING
8125	LINE SOURCE
8133	AREA SOURCE
8320	CONTINUOUS SOURCE
9105	SHORT TERM
11207	LIMITS OF APPLICABILITY

REMARKS/ABSTRACT

COMPUTER MODEL 'HIWAY' ESTIMATING NONREACTIVE POLLUTANT IMMISSION FROM HIGHWAY TRAFFIC DESCRIBED. APPLICABLE TO RECEPTOR SITES DOWNWIND OF AT-GRADE AND CUT-SECTION HIGHWAYS IN UNCOMPLICATED TERRAIN. AT-GRADE: EACH LANE OF TRAFFIC MODELED AS FINITE, CONTINUOUS LINE SOURCE; CUT-SECTION: TOP OF THE CUT AS AREA SOURCE. AREA SOURCE SIMULATED WITH 10 LINE SOURCES OF EQUAL STRENGTH.

ENTRY NO. 750055

AVAILABLE FROM
U.S. EPA AIR QUAL.PLANN.&STAND. RES. TRIANGLE PARK, N.C. 27711

INSTITUTION
WALDEN RESEARCH DIVISION OF ABCOR, INC.
201 VASSAR STREET CAMBRIDGE, MASSACHUSETTS 02139 USA

TITLE OF PAPER
SUMMARY REPORT ON MODELING ANALYSIS OF POWER PLANTS FOR FUEL CONVERSION

LANGUAGE ENGLISH

REPORT NO. EPA-450/3-75-064 NO. OF PAGES 200 DATE OF PUBLICATION 75-05-

NUMBER OF AUTHORS 1 L. MORGENSTERN

DESCRIPTORS

1007 MODEL TYPE
2011 SULFUR DIOXIDE
2062 PARTICLES
3018 LOCAL
4014 LICENSING PROCEDURE
9237 CHARACTERISTIC VALUES

REMARKS/ABSTRACT

IMPACT ON AMBIENT SO2- & TSP-CONCENTRATIONS OF POSSIBLE CONVERSION FROM OIL TO COAL FIRING OF SELECTED PLANTS. NO ALLOWANCE MADE FOR CONTRIBUTIONS FROM OTHER SOURCES, NO CONSIDERATION TO PROVISIONS OF ENERGY SUPPLY AND ENVIRONMENTAL COORDINATION ACT (1974). THUS, MORE COMPLETE ANALYSIS MIGHT ALTER TOTAL AMOUNT OF COAL WHICH COULD BE SUBSTITUTED.

ENTRY NO. 750056

AVAILABLE FROM
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INSTITUTION
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TITLE OF PAPER
SUMMARY REPORT ON MODELING ANALYSIS OF SELECTED POWER PLANTS IN 128 AQCR'S FOR EVALUATION OF IMPACT ON AMBIENT SO2-CONCENTRATIONS. VOL I

LANGUAGE ENGLISH

REPORT NO. EPA-450/3-75-062 NO. OF PAGES 200 DATE OF PUBLICATION 75-06-

NUMBER OF AUTHORS 1 L. MORGENSTERN

DESCRIPTORS

1007	MODEL TYPE
2011	SULFUR DIOXIDE
3034	REGIONAL
4014	LICENSING PROCEDURE

REMARKS/ABSTRACT

SUMMARY OF 128 REPORTS OF 401 POWER PLANTS THROUGHOUT 128 AQCR'S IN 44 STATES EVALUATING IMPACT ON AMBIENT SO2-CONCENTRATIONS OF POWER PLANT OPERATIONS. THIS STUDY PROVIDES A BASE FOR FURTHER ANALYSIS IF DECISIONS MUST BE MADE REGARDING POSSIBLE COMPLIANCE EXTENSIONS OR FUEL USE OPTIONS. VOL. I COVERS ANALYSIS OF 195 PLANTS IN 60 AQCR BY WALDEN RES. DIV.; VOL. II OF 206 PLANTS IN 68 AQCR BY GEOMET, INC.

ENTRY NO. 750057

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INSTITUTION
INSTITUT FUER METEOROLOGIE TECHNISCHE HOCHSCHULE DARMSTADT
HOCHSCHULSTR. 1 D-6100 DARMSTADT FED. REP. OF GERMANY

TITLE OF PAPER
BESTIMMUNG VON SCHORNSTEINMINDESTHOEHEN
(DETERMINATION OF REQUIRED MINIMUM STACK HEIGHTS)

LANGUAGE GERMAN

REPORT NO. NO. OF PAGES 076 DATE OF PUBLICATION 75- -

NUMBER OF AUTHORS 1 G. MANIER

DESCRIPTORS

1015	GAUSSIAN MODEL
3018	LOCAL
4022	STACK HEIGHT DETERMINATION
5037	PLUME RISE
8117	POINT SOURCE
8222	STATIONARY SOURCE
8320	CONTINUOUS SOURCE
8427	2-DIMENSIONAL METEOROLOGICAL STATISTICS
9202	LONG TERM
12009	DOCUMENTATION
12017	PROGRAM DESCRIPTION

REMARKS/ABSTRACT

COMPUTATION BASED ON BRIGG'S FORMULA AND LOCAL CLIMATOLOGICAL DATA (FREQUENCY DISTRIBUTIONS OF WIND SPEED AND STABILITY CLASSES). COMPUTER-CODE WITH PROGRAM-DESCRIPTION AND INFORMATIONS ABOUT INPUT- & OUTPUT-PROCEDURE ARE GIVEN. PROGRAM APPLIED TO SELECTED LOCATIONS IN GERMANY YIELDING LOCAL DIAGRAMS FOR DETERMINATION OF REQUIRED MINIMUM STACK HEIGHTS. EXEMPLARY CALCULATIONS FOR 25 PLANTS.

ENTRY NO. 750062

AVAILABLE FROM
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INSTITUTION
WALDEN RESEARCH DIVISION OF ABCOR, INC.
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TITLE OF PAPER
AIR QUALITY IMPACT ANALYSIS OF PROPOSED LITTLE MYSTIC CHANNEL CROSSING IN CHARLESTOWN, MASSACHUSETTS

LANGUAGE ENGLISH

REPORT NO. C-705 NO. OF PAGES DATE OF PUBLICATION 75-12-01

NUMBER OF AUTHORS 4 K. WILTSEE R. SIEGEL

DESCRIPTORS

1007	MODEL TYPE
2020	CARBON MONOXIDE
2038	NITROGEN OXIDES
2046	ORGANIC GASES
3018	LOCAL
4081	URBAN AND REGIONAL PLANNING
9237	CHARACTERISTIC VALUES

REMARKS/ABSTRACT

MODELING SIMULATIONS FOR 3 DESIGN YEARS: 76, 85, 95. 4 BUILD ALTERNATIVES & 1 NO-BUILD ALTERNAT. EVALUATED USING 2 TRAFFIC PROJECTION SCENARIOS FOR EACH ALTERNATIVE & DESIGN YEAR. 2 LEVELS OF IMPACT ANALYSIS: MACROSCALE ANALYSIS, STUDY OF CHANGE IN TOTAL EMISSIONS OF MOTOR VEHICLE-RELATED POLLUTANTS WHICH WOULD OCCUR AS RESULT OF PROJECT IMPLEMENTATION; MICROSCALE ANALYSIS OF CHANGE IN CO IMMISSION.

ENTRY NO. 750063

AVAILABLE FROM
EBES, BRUSSELS, BELGIUM

INSTITUTION
SCK/CEN
B-2400 MOL, BELGIUM

TITLE OF PAPER
WEERSLAG VAN RODENHUIZE 4 OP DE SO2-LUCHTVERONTREINIGING IN DE GENTSE KANAALZONE

LANGUAGE DUTCH

REPORT NO. NO. OF PAGES DATE OF PUBLICATION 75-03-

NUMBER OF AUTHORS . MATH. MODELLING . GROUP OF SCK/CEN

DESCRIPTORS

1015 GAUSSIAN MODEL
2011 SULFUR DIOXIDE
3026 URBAN
4014 LICENSING PROCEDURE
9237 CHARACTERISTIC VALUES
10014 VALIDATION

REMARKS/ABSTRACT

IMPACT OF NEW UNIT IN RODENHUIZE POWER PLANT UPON SO2-POLLUTION IN GENT REGION. MODEL VALIDATION IN 16 POINTS COMPARING MEASURED & CALCULATED 50- & 98-PERCENTILES & MAX. VALUES OF DAILY SO2-AVERAGES FOR APRIL - SEPTEMBER 72. IMPACT OF NEW CHIMNEY DEFINED AS ABSOLUTE AND RELATIVE INCREASE IN AVERAGE LEVELS, & 98-PERCENTILES OF DAILY AVERAGES OVER SUMMER PERIOD IN EACH KM2 OF 17 BY 17 KM2 REGION.

ENTRY NO. 750064

AVAILABLE FROM
MINISTRY OF PUBLIC HEALTH, BRUSSELS, BELGIUM

INSTITUTION
SCK/CEN
B-2400 MOL, BELGIUM

TITLE OF PAPER
IMPACT DE L'USINE DE BAYER-RICKMAN DE BRUGES SUR LE FOND DE POLLUTION EN FLUOR DE LA REGION

LANGUAGE FRENCH

REPORT NO. NO. OF PAGES DATE OF PUBLICATION 75-05-

NUMBER OF AUTHORS 5 G. DE BAERE . DE MAERE

DESCRIPTORS

1015	GAUSSIAN MODEL
2054	FLUOR COMPOUNDS
3026	URBAN
4014	LICENSING PROCEDURE
7102	OCCASIONAL VARIATION OF PARAMETERS
9237	CHARACTERISTIC VALUES

REMARKS/ABSTRACT

IMPACT EVALUATION OF THE PLANT'S EMISSIONS ON FLUOR LEVELS IN BRUGGE REGION WITH IFDM. NO MEASUREMENTS AVAILABLE, NO VALIDATION. BUT CALCULATED HOT SPOTS CORRESPONDED WITH THE ZONES WHERE DAMAGE WAS REPORTED. QUALITATIVE EVALUATION OF POSSIBLE IMPROVEMENTS IN THE AVERAGE GROUND LEVEL F-CONCENTRATIONS DUE TO A NEW CHIMNEY & FILTERING INSTALLATIONS.

ENTRY NO. 750065

AVAILABLE FROM
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COMMISSION OF THE EUROPEAN COMMUNITIES DIRECTORATE GENERAL ETC.
29, RUE ALDRINGEN LUXEMBOURG (GRAND DUCHY)

TITLE OF PAPER
AN AIR QUALITY MANAGEMENT SYSTEM FOR AN INDUSTRIALIZED REGION

LANGUAGE ENGLISH

REPORT NO. EUR 5290 E NO. OF PAGES 021 DATE OF PUBLICATION 75- -

NUMBER OF AUTHORS 1 K. MUELLER

DESCRIPTORS

1015	GAUSSIAN MODEL
1066	STATISTICAL
3034	REGIONAL
4030	CAUSE ANALYSIS
4081	URBAN AND REGIONAL PLANNING
8117	POINT SOURCE

REMARKS/ABSTRACT

CONTROL STRATEGY BASED UPON SET OF AIR QUALITY PREDICTION TABLES & SET OF TRANSMISSION TABLES ESTABLISHED BY SIMULATION. WHEN REDUCTION STRATEGY IS TO BE APPLIED, IT CONSISTS IN SINGLING OUT EMITTERS CONTRIBUTING TO POLLUTION AT CONTROL POINTS, CALCULATING REDUCTION COEFFICIENS FOR THE EMITTERS PREVENTING IMMINENT EXCESS, & SELECTING MOST ECONOMIC REDUCTION FROM AMONGST REDUCIBLE SOURCE COMBINATIONS.

ENTRY NO. 750066

AVAILABLE FROM
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INSTITUTION
LANDESANSTALT FUER IMMISSIONSSCHUTZ DES LANDES NORDRHEIN-WESTFALEN
WALLNEYER STR. 6 D-4300 ESSEN 1 FED. REP. OF GERMANY

TITLE OF PAPER
DER STAND DER ANWENDUNGSTECHNIK VOM MATHEMATISCH-METEOROLOGISCHEN AUSBREITUNGSMODELLEN IN DER PRAXIS DER LUFTREINHALTUNG

LANGUAGE GERMAN

REPORT NO. IN: HEFT 35 SCHR.R. NO. OF PAGES 044 DATE OF PUBLICATION 75- -

NUMBER OF AUTHORS 1 S. KUELSKE

DESCRIPTORS

1015	GAUSSIAN MODEL
3018	LOCAL
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
5010	DISPERSION PARAMETERS
5029	TURBULENCE CLASSES
5037	PLUME RISE
5070	MIXING HEIGHT / INVERSION HEIGHT
8125	LINE SOURCE
8133	AREA SOURCE
9229	FREQUENCY DISTRIBUTIONS
11100	ADVANTAGES
11207	LIMITS OF APPLICABILITY

REMARKS/ABSTRACT

RANGE OF APPLICATION OF DIFFUSION MODELS IN AIR POLLUTION CONTROL IS ILLUSTRATED & CLASSIFIED. STANDARDIZATIONS SUGGESTED CONCERNING LINE & AREA SOURCE MODELING, CLASSIFICATION OF WIND DIRECTION, INVERSION LAYERS, PLUME RISE FORMULAE ON THE BASIS OF COMPARISONS BETWEEN THE LIB/PLOOM MODEL & THE FORTAK & TUEV MODELS. PREFERENCE OF PLUME RISE FORMULA OF MOSES AGAINST THAT OF BRIGGS. INVERSION LAYERS TRACTABLE.

ENTRY NO. 750069

AVAILABLE FROM
U.S. EPA AIR QUAL.PLANN.&STAND. RES. TRIANGLE PARK, N.C. 27711

INSTITUTION
GEOMET, INC.
15 FIRSTFIELD ROAD GAITHERSBURG, MARYLAND 20760 USA

TITLE OF PAPER
SUMMARY REPORT ON MODELING ANALYSIS OF SELECTED POWER PLANTS IN 128 AQCR'S FOR EVALUATION OF IMPACT ON AMBIENT SO2-CONCENTR. VOL. II

LANGUAGE ENGLISH

REPORT NO. EPA-450/3-75-063 NO. OF PAGES DATE OF PUBLICATION - -

NUMBER OF AUTHORS 1 R. KOCH

DESCRIPTORS

1007 MODEL TYPE
2011 SULFUR DIOXIDE
3034 REGIONAL
4014 LICENSING PROCEDURE

REMARKS/ABSTRACT

SUMMARY OF 128 REPORTS OF 401 POWER PLANTS THROUGHOUT 128 AQCR'S IN 44 STATES EVALUATING IMPACT ON AMBIENT SO2-CONCENTRATIONS OF POWER PLANT OPERATIONS. THIS STUDY PROVIDES A BASE FOR FURTHER ANALYSIS IF DECISIONS MUST BE MADE REGARDING POSSIBLE COMPLIANCE EXTENSIONS OR FUEL USE OPTIONS. VOL. I COVERS ANALYSIS OF 195 PLANTS IN 60 AQCR BY WALDEN RES. DIV.; VOL. II OF 206 PLANTS IN 68 AQCR'S BY GEOMET, INC.

ENTRY NO. 750070

AVAILABLE FROM
NATO/CCMS PROC.6TH INT.TECHN.MEET. AIR POLL.MOD.'75 FRANKFURT

INSTITUTION
TECHNISCHER UEBERWACHUNGS-VEREIN RHEINLAND E.V.
POSTFACH 101750 D-5000 KOELN 1 FED. REP. OF GERMANY

TITLE OF PAPER
APPLICABILITY OF METEOROLOGICAL DATA TO DISTANT LOCATIONS AND THEIR INFLUENCE ON THE CALCULATION OF POLLUTANT CONCENTRATIONS

LANGUAGE ENGLISH

REPORT NO. NO. OF PAGES 014 DATE OF PUBLICATION 75-09-

NUMBER OF AUTHORS 2 H. BRESSER C. HEGER

DESCRIPTORS

1015 GAUSSIAN MODEL
3018 LOCAL
4073 FUNDAMENTAL (RESEARCH, DEVELOPMENT)
5045 TOPOGRAPHY
8117 POINT SOURCE
8222 STATIONARY SOURCE
8320 CONTINUOUS SOURCE
8435 3-DIMENSIONAL METEOROLOGICAL STATISTICS
9229 FREQUENCY DISTRIBUTIONS

REMARKS/ABSTRACT

TO SIMULATE POLLUTANT DISPERSION FOR GIVEN LOCATION ONE OFTEN LACKS COMPLETE METEOR. DATA/ DUE TO OROGRAPHY EVEN SMALL MOVE MAY CAUSE A SIGNIFICANT CHANGE IN WIND DIRECTION FREQUENCY DISTRIBUT. LEADING TO GREAT DEVIATIONS IN SIMULATED CONCS./ THESE CAN BE REDUCED ESSENTIALLY EVEN IF DATA ARE TRANSFERRED OVER LONGER DISTANCES AS SOON AS THEY ARE SCALED SO AS TO SHOW ACTUAL WIND DIRECTION FREQUENCE DISTR.

ENTRY NO. 760001

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BATTELLE-INSTITUTE E.V.
AM ROEMERHOF 35 D-6000 FRANKFURT (MAIN) FED. REP. OF GERMANY

TITLE OF PAPER
ANPASSUNG VON RECHENMODELLEN AN NATUERLICHE VERHAELTNISSE
(BEBAUUNGS- UND GELAENDEFORMEN)

LANGUAGE GERMAN

REPORT NO. NO. OF PAGES 072 DATE OF PUBLICATION 76- -

NUMBER OF AUTHORS 3 A. BRAIG W. CHRIST

DESCRIPTORS

1015	GAUSSIAN MODEL
3026	URBAN
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
5045	TOPOGRAPHY
5070	MIXING HEIGHT / INVERSION HEIGHT
9202	LONG TERM
10014	VALIDATION
11100	ADVANTAGES

REMARKS/ABSTRACT

APPLICABILITY OF GAUSSIAN PLUME MODELS EXTENDED ON SINGLE ADDITIONAL SUPPOSITIONS. THESE ALLOW FOR DIFFERING BUILT-UP AREAS, VARYING TERRAIN PATTERNS, & CHANGING MIXING HEIGHTS IN THE DESCRIPTION OF ATMOSPHERIC DISPERSION. THE EFFECT OF THESE SUPPOSITIONS IS DEMONSTRATED BY COMPARING THE CALCULATED IMMISSION CLIMATOLOGY WITH RESPECTIVE CALCULATIONS WITHOUT THESE SUPPOSITIONS AND WITH MEASUREMENTS.

ENTRY NO. 760005

AVAILABLE FROM
DR. WILLIAM J. VEIGELE OF RESOURCE SCIENCE INSTITUTE

INSTITUTION
RESOURCE SCIENCE INSTITUTE, A DIVISION OF KAPPA SYSTEMS, INC.
1409 POTTER DRIVE COLORADO SPRINGS, COLORADO 80909 USA

TITLE OF PAPER
DEVELOPMENT AND SENSITIVITY OF AIR QUALITY AND NOISE MODELING FOR TRANSPORTATION SYSTEMS ANALYSIS

LANGUAGE ENGLISH

REPORT NO. NO. OF PAGES DATE OF PUBLICATION 76-03-01

NUMBER OF AUTHORS 2 R. CLAYSON W. VEIGELE

DESCRIPTORS

1015	GAUSSIAN MODEL
3026	URBAN
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
7200	SYSTEMATICAL VARIATION OF PARAMETERS
8320	CONTINUOUS SOURCE
8117	POINT SOURCE
8125	LINE SOURCE
8133	AREA SOURCE
11100	ADVANTAGES
4014	LICENSING PROCEDURE

REMARKS/ABSTRACT

EXISTING URBAN GAUSSIAN STEADY-STATE, NONINTERACTING POLLUTANT MODEL WITH POINT, LINE, & AREA SOURCES MODIFIED TO INCLUDE ARBITRARY DESCRIPTIONS OF MASS TRANSPORTATION SYSTEMS & MODEL SPLITS OF DIFFERENT TRANSPORTATION SCHEMES, USED AROUND COLORADO SPRINGS TO PREDICT AIR QUALITY DUE TO DIFFERENT PLANNED TRANSPORTATION SYSTEMS. URBAN NOISE MODEL. SENSITIVITY OF MODELS TO INPUT DATA ERRORS STUDIED.

ENTRY NO. 760011

AVAILABLE FROM
SEE INSTITUTION

INSTITUTION
SCK/CEN
B-2400 MOL BELGIUM

TITLE OF PAPER
EVALUATION OF THE IMPACT OF NEW OR EXISTING SOURCES UPON THE LEVELS OF AIR POLLUTION BY MEANS OF THE IMMISSION FREQUENCY DISTRIBUTION MO

LANGUAGE ENGLISH

REPORT NO. NO. OF PAGES DATE OF PUBLICATION 76-09-

NUMBER OF AUTHORS 2 J. KRETZSCHMAR G. DE BAERE

DESCRIPTORS

1015	GAUSSIAN MODEL
2011	SULFUR DIOXIDE
3034	REGIONAL
8117	POINT SOURCE
8133	AREA SOURCE
9229	FREQUENCY DISTRIBUTIONS
10014	VALIDATION

REMARKS/ABSTRACT

BASED ON BI-GAUSSIAN DISPERSION FORMULA, TAKING INTO ACCOUNT ACTUAL EMISSION DATA AND METEOROLOGICAL CONDITIONS IMMISSION FREQUENCY DISTRIBUTION MODEL CALCULATES FREQUENCY DISTRIBUTION OF GROUND-LEVEL CONCENTRATIONS FOR SPECIFIED PERIOD OF TIME IN WHATEVER POINT OF A REGION. VALIDATION FOR PERIODS OF KNOWN IMMISSION, EMISSION, AND METEOROLOGY. EXAMPLES FOR SO2 IN ANTWERPEN REGION SHOW CAPABILITY OF M

ENTRY NO. 760012

AVAILABLE FROM
SEE INSTITUTION

INSTITUTION
SCK/CEN
B-2400 MOL BELGIUM

TITLE OF PAPER
EVALUATIE VAN DE SANEERINGSMAATREGELEN IN TESSENDERLO OP BASIS VAN HET IFDM-MODEL VAN HET SCK/CEN.

LANGUAGE DUTCH

REPORT NO. NO. OF PAGES DATE OF PUBLICATION 76-04-

NUMBER OF AUTHORS 3 J. KRETZSCHMAR G. DE BAERE

DESCRIPTORS

1015 GAUSSIAN MODEL
2011 SULFUR DIOXIDE
3018 LOCAL
9229 FREQUENCY DISTRIBUTIONS

REMARKS/ABSTRACT

EVALUATION OF THE EVOLUTION OF THE SO2-POLLUTION IN TESSENDERLO AS A FUNCTION OF THE EXPANSION AND REORGANISATION OF THE TWO MAJOR SO2-SOURCES IN THE VICINITY.

ENTRY NO. 760015

AVAILABLE FROM
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INSTITUTION
TUEV RHEINLAND E.V.
POSTFACH 101750 D-5000 KOELN 1 FED. REP. OF GERMANY

TITLE OF PAPER
STANDARDISIERUNG UND WEITERENTWICKLUNG DER AUSBREITUNGSRECHNUNG
(STANDARDIZATION AND FURTHER DEVELOPMENT OF DISPERSION CALCULATION)

LANGUAGE GERMAN

REPORT NO. NO. OF PAGES DATE OF PUBLICATION 76-05-

NUMBER OF AUTHORS 9 H. BRESSER L. KROPP

DESCRIPTORS

1015 GAUSSIAN MODEL
3018 LOCAL
3026 URBAN
3034 REGIONAL
4073 FUNDAMENTAL (RESEARCH, DEVELOPMENT)
5010 DISPERSION PARAMETERS
5029 TURBULENCE CLASSES
5037 PLUME RISE
5045 TOPOGRAPHY
5053 ROUGHNESS OF GROUND
5070 MIXING HEIGHT / INVERSION HEIGHT
7200 SYSTEMATICAL VARIATION OF PARAMETERS
8222 STATIONARY SOURCE
8311 DISCONTINUOUS SOURCE
8320 CONTINUOUS SOURCE
8435 3-DIMENSIONAL METEOROLOGICAL STATISTICS
9229 FREQUENCY DISTRIBUTIONS
9237 CHARACTERISTIC VALUES

REMARKS/ABSTRACT

FOR PRACTICAL APPLICATION IN LICENSING PROCEDURES STANDARDIZED MULTIPLE-SOURCE MODEL REQUIRED. STANDARDIZED GAUSSIAN PLUME MODEL PROPOSED WITH WHICH TO CALCULATE ANNUAL MEAN VALUES AND CUMULATIVE FREQUENCY DISTRIBUTIONS. INFLUENCE OF VARIOUS INPUT DATA AND MODEL PARAMETERS ON RESULTING IMMISSION SIMULATION EXAMINED. BASED ON THESE RESULTS PRIORITIES PRESENTED FOR FUTURE RESEARCH PROJECTS.

ENTRY NO. 760016

AVAILABLE FROM
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INSTITUTION
IBM SCIENTIFIC CENTER
DORSODURO 3228 I-30122 VENEZIA ITALY

TITLE OF PAPER
AN APPLICATION OF THE GALERKIN METHOD TO THE EULER-LAGRANGIAN TREATMENT OF TIME DEPENDENT ADVECTION AND DIFFUSION OF AIR POLLUTANTS .

LANGUAGE ENGLISH

REPORT NO. NO. OF PAGES 011 DATE OF PUBLICATION 76-07-05

NUMBER OF AUTHORS 1 P. MELLI

DESCRIPTORS

1015	GAUSSIAN MODEL
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
5010	DISPERSION PARAMETERS
8311	DISCONTINUOUS SOURCE
8516	WIND VARIANCE WITH HEIGHT

REMARKS/ABSTRACT

FINITE ELEMENT METHOD USED TO STUDY POLLUTANT DIFFUSION FOR VARIABLE EMISSION RATES, WIND SPEED AND DIFFUSION COEFFICIENTS. AN IRREGULAR GRID ADAPTING ITSELF TO WIND PROFILE INTRODUCED SO THAT AT EVERY LEVEL HORIZONTAL DISTANCE BETWEEN ADJACENT GRID POINTS EQUALS TRAVEL DISTANCE. DIFFUSION ADVECTION EQUATION SOLVED IN AN EULERIAN GRID WHICH DUE TO ITS GEOMETRY PERMITS LAGRANGIAN TREATMENT OF ADVECTION.

ENTRY NO. 760019

AVAILABLE FROM
N.V. PETROCHIM, ANTWERPEN, BELGIEN

INSTITUTION
SCK/CEN
B-2400 MOL, BELGIUM

TITLE OF PAPER
WEERSLAG VAN PETROCHIM-ANTWERPEN OP DE SO2-VERONTREINIGING IN DE
OMGEVING

LANGUAGE DUTCH

REPORT NO. NO. OF PAGES DATE OF PUBLICATION 76-10-

NUMBER OF AUTHORS 3 J. KRETZSCHMAR G. DE BAERE

DESCRIPTORS

1015 GAUSSIAN MODEL
2011 SULFUR DIOXIDE
3026 URBAN
4014 LICENSING PROCEDURE
9229 FREQUENCY DISTRIBUTIONS
9237 CHARACTERISTIC VALUES
10014 VALIDATION

REMARKS/ABSTRACT

IMPACT OF THE 4 SO2-SOURCES OF N.V.PETROCHIM REFINERY ON SO2-LEVELS IN ANTWERPEN WITH IFDM. INDUSTRIAL & DOMESTIC SOURCES ALLOWED FOR TO COMPARE CALCULATED & MEASURED FREQUENCY DISTRIBUTIONS OF DAILY SO2-AVERAGES IN 10 MONITORING STATIONS IN 10 BY 11 KM2 REGION. CORRELATIONS WERE >.95 FOR MEAN VALUE & FOR 95-PERCENTILE OF DAILY VALUES IN 4/72 - 9/72. LOCAL METEOROLOG. DATA (2-HOURLY VALUES) WERE USED.

ENTRY NO. 760020

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TITLE OF PAPER
WEERSLAG VAN DE UITBREIDING VAN DE N.V. KOOKSFABRIEK ZEEBRUGGE OP DE SO2-VERONTREINIGING IN DE OMGEVING

LANGUAGE DUTCH

REPORT NO. NO. OF PAGES DATE OF PUBLICATION 76-02-

NUMBER OF AUTHORS 3 G. DE BAERE J. KRETZSCHMAR

DESCRIPTORS

1015 GAUSSIAN MODEL
2011 SULFUR DIOXIDE
3026 URBAN
4014 LICENSING PROCEDURE
9229 FREQUENCY DISTRIBUTIONS
9237 CHARACTERISTIC VALUES
10014 VALIDATION

REMARKS/ABSTRACT

DETERMINATION OF IMPACT OF NEW COKES UNIT UPON SO2-LEVELS IN ZEEBRUGGE WITH THE IFDM-MODEL. VALIDATION OF MODEL BASED ON CALCULATED & MEASURED CFD IN ONE POINT, WHERE MEASURED HOURLY SO2-VALUES WERE AVAILABLE FOR 3 MONTHS PERIOD. IMPACT DEFINED AS EXPECTED CHANGE IN ANNUAL MEAN & 98-PERCENTILE OF DAILY AVERAGES OVER 1 YEAR IN EACH 1 KM2 ZONE OF A 11 BY 9 KM2 REGION AROUND THE EXPANDING FACTORY.

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TITLE OF PAPER
EXPERIM. DETERMINATION OF THE ATMOSPHERIC DISPERSION PARAMETERS OVER ROUGH TERRAIN. PART 1: MEASUREMENTS AT KARLSRUHE NUCLAEAR RESARCH CT

LANGUAGE ENGLISH

REPORT NO. KFK 2285 NO. OF PAGES 130 DATE OF PUBLICATION 76-07-

NUMBER OF AUTHORS 6 P. THOMAS W. HUEBSCHMANN

DESCRIPTORS

1015	GAUSSIAN MODEL
2097	RADIOACTIVE COMPOUNDS
2100	INERT GASES
3018	LOCAL
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
5010	DISPERSION PARAMETERS
5029	TURBULENCE CLASSES
5053	ROUGHNESS OF GROUND
8117	POINT SOURCE
8222	STATIONARY SOURCE
8320	CONTINUOUS SOURCE
10030	PARAMETER DETERMINATION

REMARKS/ABSTRACT

ATMOSPH. DIFFUSION OF POLLUTANTS INVESTIGATED. INFLUENCE OF TOPOGRAPHIC CONDITIONS DETERMINED. TRITIATED WATER VAPOR & HALOGENATED HYDROCARBONS EMITTED AT 100 M ABOVE GROUND, CONCENTRATION MEASURED AT GROUND LEVEL. THIS PART DESCRIBES EXPERIMENTS PERFORMED & PRESENTS MEASURED DATA: SAMPLING LOCATIONS, MEASURED CONCENTR. & MOST IMPORTANT METEOR. DATA RECORDED DURING EXPERIMENTS. DIFFUSION CATEGORIES.

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TITLE OF PAPER
EXPERIMENTAL DETERMINATION OF THE ATMOSPHERIC DISPERSION PARAMETERS OVER ROUGH TERRAIN. PART 2: EVALUATION OF MEASUREMENTS

LANGUAGE   ENGLISH

REPORT NO. KFK 2286   NO. OF PAGES 120 DATE OF PUBLICATION 76-06-

NUMBER OF AUTHORS 2   P. THOMAS   K. NESTER

DESCRIPTORS

1015	GAUSSIAN MODEL
2097	RADIOACTIVE COMPOUNDS
2100	INERT GASES
3018	LOCAL
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
5010	DISPERSION PARAMETERS
5029	TURBULENCE CLASSES
5053	ROUGHNESS OF GROUND
8117	POINT SOURCE
8222	STATIONARY SOURCE
8320	CONTINUOUS SOURCE
10030	PARAMETER DETERMINATION

REMARKS/ABSTRACT

DIFFUSION ASSUMED TO BE STEADY STATE. 2DIMENSIONAL GAUSSIAN DISTRIBUTION USED TO FIT CONCENTRATIONS. DEPENDENCE OF DISPERSION PARAMETERS ON SOURCE DISTANCE DESCRIBED BY POWER LAW. LEAST SQARES TECHNIQUE APPLIED TO ASSESS HORIZONTAL & VERTICAL DISPERSION PARAMETERS & RESPECTIVE ERRORS. COMPARISON WITH PARAMETERS OF PASQUILL/GIFFORD. A SHIFT TOWARDS INSTABILITY FOUND. FLATTER SLOPE OF THE SIGMA-Y.

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D-5170 JUELICH   FED. REP. OF GERMANY

TITLE OF PAPER
ERGEBNISSE DER JUELICHER AUSBREITUNGSEXPERIMENTE FUER 50 UND 100 M EMISSIONSHOEHE

LANGUAGE   GERMAN

REPORT NO. ZST 240   NO. OF PAGES 13 DATE OF PUBLICATION 76-10-

NUMBER OF AUTHORS 1   K. VOGT

DESCRIPTORS

1015	GAUSSIAN MODEL
2097	RADIOACTIVE COMPOUNDS
3018	LOCAL
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
5010	DISPERSION PARAMETERS
5029	TURBULENCE CLASSES
5053	ROUGHNESS OF GROUND
8117	POINT SOURCE
8222	STATIONARY SOURCE
8320	CONTINUOUS SOURCE
10030	PARAMETER DETERMINATION

REMARKS/ABSTRACT

FIRST CLOSED SERIES OF MEASUREMENTS OF DISPERSION PARAMETERS ALLOWING FOR DEPENDENCE ON EMISSION HEIGHTS. AS LONG AS THERE ARE NO MORE EXPERIMENTS WITH FURTHER EMISSION HEIGHTS APPLIANCE OF JUELICH DIFFUSION PARAMETERS MEASURED WITH 50 M EMISSION HEIGHT RECOMMENDED FOR ALL STACK HEIGHTS UP TO 50 M & THOSE MEASURED WITH 100 M EMISSION HEIGHT FOR ALL OVER 100 M. APPLICABLE TO PLANE & SUFFICIENT ROUGH GR

ENTRY NO. 760024

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DEPARTMENT OF GEOSCIENCES NORTH CAROLINA STATE UNIVERSITY
RALEIGH, NORTH CAROLINA 27607 USA

TITLE OF PAPER
ATMOSPH. DISPERSION PARAMETERS IN GAUSSIAN PLUME MODELING. PART I: REVIEW OF CURRENT SYSTEMS AND POSSIBLE FUTURE DEVELOPMENTS

LANGUAGE ENGLISH

REPORT NO. EPA-600/4-76-030A NO. OF PAGES 069 DATE OF PUBLICATION 76-07-

NUMBER OF AUTHORS 1 A. WEBER .

DESCRIPTORS

1015 GAUSSIAN MODEL
3018 LOCAL
4073 FUNDAMENTAL (RESEARCH, DEVELOPMENT)
5010 DISPERSION PARAMETERS
7102 OCCASIONAL VARIATION OF PARAMETERS

REMARKS/ABSTRACT
RECAPITULATION OF GAUSSIAN PLUME MODEL PRESENTED & PASQUILL'S METHOD OF ASSESSING THE SENSITIVITY OF THIS MODEL GIVEN. NUMBER OF METHODS TO DETERMINE DISPERSION PARAMETERS IN GAUSSIAN PLUME MODEL REVIEWED. COMPARISONS WITH PASQUILL-GIFFORD CURVES PRESENTLY USED IN TURNER'S WORKBOOK. IMPROVED METHODS RESULTING FROM RECENT INVESTIGATIONS ARE DISCUSSED IN AN INTRODUCTORY WAY FOR PART II OF THIS REPORT.

ENTRY NO. 760025

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RESEARCH TRIANGLE PARK, N.C. 27711 USA

TITLE OF PAPER
ATMOSPH. DISPERSION PARAMETERS IN GAUSSIAN PLUME MODELING. PART II:
POSSIBLE REQUIREMENTS FOR CHANGE IN THE TURNER WORKBOOK VALUES

LANGUAGE ENGLISH

REPORT NO. EPA-600/4-76-030B NO. OF PAGES 053 DATE OF PUBLICATION 76-06-

NUMBER OF AUTHORS 1 F. PASQUILL

DESCRIPTORS

1015	GAUSSIAN MODEL
3018	LOCAL
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
5015	DISPERSION PARAMETERS
5070	MIXING HEIGHT / INVERSION HEIGHT
11100	ADVANTAGES
11207	LIMITS OF APPLICABILITY

REMARKS/ABSTRACT

BASIS OF PASQUILL-GIFFORD CURVES IN TURNER'S WORKBOOK RESTATED. FIELD TEST DATA REVIEWED TO EMPHASIZE USEFUL WORKING RELATION BETWEEN SIGMA-Y & STANDARD DEVIATION OF WIND DIRECTION FLUCTUATION. NEW TRIAL CALCULATIONS OF VERTICAL SPREAD WITH GRADIENT-TRANSFER APPROACH, RECENT SIMILARITY ANALYSES, NEW OBSERVAT. DATA ON TURBULENCE STRUCTURE IN CONVECTIVE BOUNDARY LAYER, & DEARDORFF'S MODELING OF LAYER.

ENTRY NO. 760026

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9700 SOUTH CASS AVENUE ARGONNE, ILLINOIS 60439 USA

TITLE OF PAPER
CURRENT USES AND REQUIREMENTS FOR AIR QUALITY MODELS
A PRELIMINARY REPORT PREPARED FOR NATO/CCMS EXPERT PANEL ON AQSM

LANGUAGE ENGLISH

REPORT NO. NO. OF PAGES 130 DATE OF PUBLICATION 76-11-

NUMBER OF AUTHORS 1 D. ROTE

DESCRIPTORS

1015 GAUSSIAN MODEL
1023 BOX
1031 GRID
1040 LAGRANGIAN
1058 ANALYTICAL
1066 STATISTICAL
1104 OTHER

REMARKS/ABSTRACT

(FROM TABLE OF CONTENT:)
MODEL TYPES IN CURRENT USE: ROLLBACK MODELS, BOX MODELS, PLUME MODELS, NUMERICAL SOLUTION OF ADVECTION/DIFFUSION EQ., STATISTICAL MO. SPECIAL MODELING TOPICS: SOURCE OR RECEPTOR ORIENTED M., AIR QUALITY STANDARDS, LONG-TERM MODEL APPLICATIONS, SHORT-TERM MODEL APPLICATIONS, COMPLEX TERRAIN MODELS, MOBILE SOURCE & REACTIVE POLLUTANT M.

ENTRY NO. 760027

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P.O.B. 8049 SALT LAKE CITY, UTAH 84108 USA

TITLE OF PAPER
DIFFUSION-MODEL CALCUL. OF LONG & SHORT TERM GROUND-LEVEL CONCENTRS. PROD. BY THE MAJOR SO2 STATIONARY SOURCES IN ALLEGHENY COUNTY, PA.

LANGUAGE ENGLISH

REPORT NO. 76-26.5 NO. OF PAGES 014 DATE OF PUBLICATION 76-06-27

NUMBER OF AUTHORS 3 H. CRAMER J. BOWERS

DESCRIPTORS

1015	GAUSSIAN MODEL
2011	SULFUR DIOXIDE
3026	URBAN
4030	CAUSE ANALYSIS
4090	SUPPLEMENTARY CONTROL
5010	DISPERSION PARAMETERS
5045	TOPOGRAPHY
5070	MIXING HEIGHT / INVERSION HEIGHT
8222	STATIONARY SOURCE
9105	SHORT TERM
9202	LONG TERM

REMARKS/ABSTRACT

PAPER DESCRIBES COMPREHENSIVE SET OF URBAN DIFFUSION MODELS & USE OF THEM TO CALCULATE IMPACT ON AMBIENT AIR QUALITY OF MAJOR SO2 SOURCES IMPORTANT FOR ALLEGHENY COUNTY. SUCH MODELING THE ONLY PRACTICABLE WAY TO ESTABLISH DETAILED SHORT-TERM AND LONG-TERM RELATIONSHIPS BETWEEN SOURCE & GROUND-LEVEL POLLUTANT CONCENTRATION. MODELS HAVE TO ALLOW FOR LOCAL TERRAIN FEATURES & METEOROLOGICAL FACTORS.

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TITLE OF PAPER
COMPARISON OF CALCULATED AND OBSERVED CHARACTERISTICS OF PLUMES OF TWO COAL-FIRED POWER PLANTS LOCATED IN COMPLEX TERRAIN

LANGUAGE ENGLISH

REPORT NO. NO. OF PAGES 007 DATE OF PUBLICATION 76-10-26

NUMBER OF AUTHORS 2 J. BOWERS H. CRAMER

DESCRIPTORS

1015	GAUSSIAN MODEL
2011	SULFUR DIOXIDE
3018	LOCAL
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
5037	PLUME RISE
5045	TOPOGRAPHY
8117	POINT SOURCE
8222	STATIONARY SOURCE
8320	CONTINUOUS SOURCE
9105	SHORT TERM
10014	VALIDATION
5070	MIXING HEIGHT / INVERSION HEIGHT

REMARKS/ABSTRACT
SO_2 CONCENTRATIONS DOWNWIND FROM MITCHELL & KAMMER COAL-FIRED POWER PLANTS (MARSHALL CO., W.-VA.) RECORDED BY AIRBORNE MEASUREMENTS OF EPA'S ENV. MONITORING & SUPPORT LAB (EMSL). AUTHORS USE CONCURRENT METEOR. & EMISSIONS DATA FOR VARIOUS EMSL TRIALS WITH SHORT-TERM MODEL TO CALCULATE SHORT-TERM PLUME CHARACTERISTICS (STABILIZ. HEIGHT, AXIAL CONC., MAX. GROUND-LEVEL CONC. ON ELEVATED TERRAIN).

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TITLE OF PAPER
IMPROVED TECHNIQUES FOR MODELING THE DISPERSION OF TALL STACK PLUMES

LANGUAGE ENGLISH

REPORT NO. NO. OF PAGES 050 DATE OF PUBLICATION 76-09-07

NUMBER OF AUTHORS 1 H. CRAMER

DESCRIPTORS

1015	GAUSSIAN MODEL
2011	SULFUR DIOXIDE
3018	LOCAL
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
5010	DISPERSION PARAMETERS
5037	PLUME RISE
5045	TOPOGRAPHY
5070	MIXING HEIGHT / INVERSION HEIGHT
8117	POINT SOURCE
8222	STATIONARY SOURCE
8320	CONTINUOUS SOURCE
9105	SHORT TERM
9202	LONG TERM
10014	VALIDATION

REMARKS/ABSTRACT

COMPREHENSIVE SET OF GENERALIZED DISPERSION FORMULAE TO CALCULATE AIR QUALITY IMPACT OF PLUMES FROM TALL STACKS IN FLAT & COMPLEX TERRAIN. BRIGGS PLUME RISE EQS. USED TO CALCULATE PLUME STABIL. HEIGHT, STABIL. DISTANCE & PLUME DIAMETER AT STABILIZATION. FOR PLUMES STABILIZING WITHIN SURFACE MIXING LAYER IMPROVED GAUSSIAN MODEL USED TO CALCULATE DOWNWIND LATERAL & VERTICAL PLUME DIMENSIONS & OTHER PARAM

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DEPARTMENT OF INDUSTRY, WARREN SPRING LABORATORY,
GUNNELS WOOD ROAD, STEVENAGE, SG1 2BX, UK

TITLE OF PAPER
THE PREDICTIVE MODELLING OF AIR POLLUTION: FORTH VALLEY STUDY
(PRESENTED TO ANGLO/SOVIET SYMPOSIUM ON MONITORING, CARDINGTON,UK 76

LANGUAGE ENGLISH

REPORT NO. NO. OF PAGES 019 DATE OF PUBLICATION 76-11-

NUMBER OF AUTHORS A. KEDDIE . ET AL

DESCRIPTORS

1015 GAUSSIAN MODEL
2011 SULFUR DIOXIDE
2062 PARTICLES
3026 URBAN
4057 IN ADDITION TO MEASUREMENTS
10014 VALIDATION

REMARKS/ABSTRACT

W.S. LAB CONDUCTS MONITORING/MODELLING STUDY OF AIR POLLUTION BY SO2 & SMOKE IN FORTH VALLEY (SCOTLAND). MORE IMPORTANT FEATURES OF THE AIR POLLUTION & METEOR. MEASURING NETWORKS & EMISSION INVENTORIES DESCRIBED WITH OUTLINE OF METHODS OF DATA INTERPRETATION. THE SECOND PART OF PAPER ,CONTAINS DESCRIPTION OF GAUSSIAN DISPERSION MODEL & COMPARISONS BETWEEN OBSERVED & MODELLED AIR POLLUTANT CONCENTRATIONS

ENTRY NO. 760032

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INSTITUTION
STUDY AND INFORMATION CENTRE TNO ON ENVIRONMENTAL RESEARCH
P.O.B. 186 DELFT, NETHERLANDS

TITLE OF PAPER
MODELLEN VOOR DE BEREKENING VAN DE VERSPREIDING VAN LUCHTVERONTREINIGING, INCLUSIEF AANBEVELINGEN VOOR DE WAARDEN VAN PARAMETERS IN...

LANGUAGE DUTCH

REPORT NO. ISBN 9012 012716 NO. OF PAGES 093 DATE OF PUBLICATION 76-04-

NUMBER OF AUTHORS . KLEINE COMMISSIE .

DESCRIPTORS

1015	GAUSSIAN MODEL
3026	URBAN
4014	LICENSING PROCEDURE
5010	DISPERSION PARAMETERS
5029	TURBULENCE CLASSES
7102	OCCASIONAL VARIATION OF PARAMETERS
8117	POINT SOURCE
8133	AREA SOURCE
8320	CONTINUOUS SOURCE
9202	LONG TERM
9229	FREQUENCY DISTRIBUTIONS
10014	VALIDATION
10030	PARAMETER DETERMINATION
11207	LIMITS OF APPLICABILITY

REMARKS/ABSTRACT

CONCLUSIONS OF WORKING GROUP ON AIR POLLUTION DISPERSION, INSTALLED TO DEVELOP MATHEMATICAL MODEL FOR URBAN AIR POLLUTION GENERALLY ACCEPTABLE IN NETHERLANDS: GAUSSIAN PLUME MODEL TO CALCULATE LONG-TERM AVERAGE CONCENTRATIONS OF POINT & AREA SOURCES. INPUT PARAMETERS DETERMINED BY MODEL VALIDATION WITH MEASURED CONCENTRATIONS IN RIJNMOND AREA. INPUT PARAMETERS IN 'NATIONAL AIR POLL. M.' RECOMMENDED.

ENTRY NO. 760033

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ROYAL NETHERLANDS METEOROLOGICAL INSTITUTE
UTRECHTSEWEG 297 DE BILT-2664 THE NETHERLANDS

TITLE OF PAPER
HANDLEIDING VOOR HET COMPUTERPROGRAMMA VAN HET GAUSSISCHE PLUIMMODEL WAARIN ZIJN VERWERKT DE AANBEVELINGEN VOOR HET NATIONALE MODEL

LANGUAGE DUTCH

REPORT NO. W.R. 76-16 NO. OF PAGES 065 DATE OF PUBLICATION 76- -

NUMBER OF AUTHORS 3 P. NIEUWENDIJK C. ENGELDAL

DESCRIPTORS

1015	GAUSSIAN MODEL
3026	URBAN
5010	DISPERSION PARAMETERS
8117	POINT SOURCE
8133	AREA SOURCE
9202	LONG TERM
9210	CONCENTRATION FIELD
12017	PROGRAM DESCRIPTION
12025	PROGRAM LISTING

REMARKS/ABSTRACT

GAUSSIAN PLUME MODEL PROGRAMMED ON BURROUGHS 6700 OF ROYAL NETH. METEOR. INST. IN BURROUGHS EXTENDED ALGOL. CONCENTRATION OF POINT & AREA SOURCES CAN BE CALCULATED AVERAGED OVER LONG TERM (SEASON,YEAR). RECOMMENDED PARAMETERS FOR NETH. NAT. MODEL APPLIED. GAUSSIAN PLUME MODEL & INPUT PARAMETERS DISCUSSED. MANUAL GIVEN TO OPERATE PROGRAM, EXAMPLES. MANUAL REPLACES OLD VERSION VERMAAS (1975) W.R. 75-7.

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AVAILABLE FROM
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ROYAL NETHERLANDS METEOROLOGICAL INSTITUTE
UTRECHTSEWEG 297 DE BILT-2664 THE NETHERLANDS

TITLE OF PAPER
APPLICATION OF THE RECOMMENDED NATIONAL AIR POLLUTION MODEL OF THE NETHERLANDS TO THE NATO COMMON DATA BASE FOR THE FRANKFURT AREA

LANGUAGE ENGLISH

REPORT NO. W.R. 76-17 NO. OF PAGES 015 DATE OF PUBLICATION 76- -

NUMBER OF AUTHORS 2 F. NIEUWSTADT C. ENGELDAL

DESCRIPTORS

1015	GAUSSIAN MODEL
2011	SULFUR DIOXIDE
3034	REGIONAL
4030	CAUSE ANALYSIS
8117	POINT SOURCE
8133	AREA SOURCE
9202	LONG TERM
9210	CONCENTRATION FIELD
10014	VALIDATION

REMARKS/ABSTRACT

NAT. AIR POLL. MODEL EXTENSIVELY DESCRIBED IN THE REPORT APPLIED TO NATO/CCMS DATA BASE FOR FRANKFURT REGION. ANNUAL AVERAGED CONCENTRATIONS CALCULATED. DISTINCTION MADE BETWEEN CONTRIBUTIONS DUE TO AREA SOURCES & TO POINT SOURCES. RESULTS PRESENTED IN FORM OF ISOPLETH MAPS & ALSO GIVEN FOR 6 SPECIFIED RECEPTOR LOCATIONS. CALCULATED RESULTS COMPARED WITH PRELIMINARY ONES PRESENTED IN QUAIL ROOST SEP.76

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POSTFACH 101750 D-5000 KOELN 1 FED. REP. OF GERMANY

TITLE OF PAPER
INFLUENCES OF MODEL PARAMETERS AND SENSITIVITY TO THEIR VARIATION WITHIN THE IMMISSION FORECASTING

LANGUAGE ENGLISH

REPORT NO. NO. OF PAGES 023 DATE OF PUBLICATION 76-09-

NUMBER OF AUTHORS 2 L. KROPP H. BRESSER

DESCRIPTORS

1015	GAUSSIAN MODEL
3018	LOCAL
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
5010	DISPERSION PARAMETERS
5029	TURBULENCE CLASSES
5037	PLUME RISE
5045	TOPOGRAPHY
5070	MIXING HEIGHT / INVERSION HEIGHT
6106	CHEMICAL TRANSFORMATIONS
6203	PHYSICAL TRANSFORMATIONS
7200	SYSTEMATICAL VARIATION OF PARAMETERS
8109	SOURCE DIMENSION
8435	3-DIMENSIONAL METEOROLOGICAL STATISTICS
9229	FREQUENCY DISTRIBUTIONS

REMARKS/ABSTRACT

INFLUENCE OF DIFFERENT DIFFUSION PARAMETERS, EFFECT. SOURCE HEIGHT, METEOR. DATA (REQUIREMENTS OF ACCURACY), MIXING & INVERSION HEIGHT, SOURCE DATA & THEIR EXACTNESS, SOURCE DIMENSION & CHEMICAL OR PHYSICAL PROCESSES QUANTITATIVELY INVESTIGATED. DIFFUSION PARAMETERS MOST CRITICAL. THERE ARE DIFFERENT SETS OF DIFFUSION PARAMETERS FROM DIFFERENT EXPERIMENTS LEADING TO A CONSISTENT RESULT.

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TITLE OF PAPER
BEREITSTELLUNG EINES AUSBREITUNGSMODELLES VOM GAUSS-TYP ZUR IMMISSIONSPROGNOSE IM GENEHMIGUNGSVERFAHREN NACH PARAGRAPHEN 15, 16 BIMSCHG

LANGUAGE   GERMAN

REPORT NO. IN: HEFT 40 SCHR.R. NO. OF PAGES 003 DATE OF PUBLICATION 77- -

NUMBER OF AUTHORS 1   S. KUELSKE

DESCRIPTORS

1015	GAUSSIAN MODEL
3018	LOCAL
4014	LICENSING PROCEDURE
8117	POINT SOURCE
8125	LINE SOURCE
8133	AREA SOURCE
8435	3-DIMENSIONAL METEOROLOGICAL STATISTICS
9229	FREQUENCY DISTRIBUTIONS
11100	ADVANTAGES
12017	PROGRAM DESCRIPTION

REMARKS/ABSTRACT

PAPER DESCRIBES COMPUTER PROGRAM FOR AMBIENT POLLUTANT PREDICTIONS, REQUIRED IN APPROVAL PROCEEDINGS FOR MINERAL OIL REFINERIES & PETROCHEMICAL INSTALLATIONS FOR PRODUCTION OF HYDROCARBONS AS PRESCRIBED BY PARAGRAPHS 15 & 16 OF FEDERAL POLLUTION CONTROL LAW. THE OPTIMIZATION OF THIS COMPUTER PROGRAM IS EXPLAINED IN LIGHT OF OTHER PROGRAMS USED PREVIOUSLY.

ENTRY NO. 770006

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SOCIETE D'ETUDE DE L'ENVIRONNEMENT S.A.
33, RUE DU MIDI CH-1800 VEVEY SWITZERLAND

TITLE OF PAPER
MULTIPLE SOURCE AIR DIFFUSION MODEL POLLUX - SUCCINCT DESCRIPTION

LANGUAGE ENGLISH

REPORT NO. NO. OF PAGES 007 DATE OF PUBLICATION 77-06-

NUMBER OF AUTHORS 1 J. LIECHTI

DESCRIPTORS

1015	GAUSSIAN MODEL
1023	BOX
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
5061	LOW WIND SPEED
8117	POINT SOURCE
8133	AREA SOURCE
9105	SHORT TERM
9202	LONG TERM
9229	FREQUENCY DISTRIBUTIONS
12017	PROGRAM DESCRIPTION

REMARKS/ABSTRACT

POLLUX CALCULATES SHORT & LONG TERM GROUND LEVEL CONCENTRATIONS FROM POINT & AREA SOURCES & CUMUL. FREQUENCY DISTRIBUTIONS. THE LATTER CAN BE WEIGHTED BY POPULATION. POLLUX CONTAINS 2-DIMENSIONAL BOX MODEL FOR CASES OF STAGNATION & A Q/U-MODEL. POLLUX PERMITS TO INTRODUCE LIST OF METEOR. EPISODES & INPUT-DATA GROUPS (WITH OUTPUTS FOR EACH GROUP & FOR TOTAL). FLEXIBILITY FURTHER ENHANCED BY PARA. CARDS

ENTRY NO. 770007

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33, RUE DU MIDI CH-1800 VEVEY SWITZERLAND

TITLE OF PAPER
APPLICATION OF THE MULTIPLE SOURCE DISPERSION MODEL POLLUX TO THE DATA OF FRANKFURT/MAIN (TEST CITY)

LANGUAGE ENGLISH

REPORT NO. NO. OF PAGES 028 DATE OF PUBLICATION 77-04-

NUMBER OF AUTHORS 1 J. LIECHTI

DESCRIPTORS

1015	GAUSSIAN MODEL
2011	SULFUR DIOXIDE
3026	URBAN
4073	FUNDAMENTAL (RESEARCH, DEVELOPMENT)
8435	3-DIMENSIONAL METEOROLOGICAL STATISTICS
9229	FREQUENCY DISTRIBUTIONS
9237	CHARACTERISTIC VALUES

REMARKS/ABSTRACT

POLLUX MULTIPLE SOURCE DISPERSION MODEL APPLIED TO FRANKFURT AREA, OUTPUT AS REQUIRED BY THE NATO/CCMS AIR POLLUTION PILOT STUDY (ANNUAL MEAN VALUES AND CUMULATIVE FREQUENCY DISTRIBUTIONS).

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TITLE OF PAPER
HET GAUSSISCHE PLUIMMODEL VOOR DE BEREKENING VAN UURGEMIDDELDE CONCENTRATIES VAN LUCHTVERONTREINIGING

LANGUAGE DUTCH

REPORT NO. W.R. 77-3 NO. OF PAGES 041 DATE OF PUBLICATION 77- -

NUMBER OF AUTHORS 3 F. NIEUWSTADT P. NIEUWENDIJK

DESCRIPTORS

1015 GAUSSIAN MODEL
3026 URBAN
4073 FUNDAMENTAL (RESEARCH, DEVELOPMENT)
8117 POINT SOURCE
8133 AREA SOURCE
8222 STATIONARY SOURCE
9105 SHORT TERM
9202 LONG TERM
9229 FREQUENCY DISTRIBUTIONS
11207 LIMITS OF APPLICABILITY
12017 PROGRAM DESCRIPTION
12025 PROGRAM LISTING

REMARKS/ABSTRACT

GAUSSIAN PLUME MODEL TO CALCULATE SHORT-TERM (HOURLY) AVERAGED CONCENTRATIONS PROGRAMMED. MODEL & PARAMETERS ADAPTED AS MUCH AS POSSIBLE TO ALREADY EXISTING M. FOR LONG-TERM AVERAGED CONCENTRATIONS. HOWEVER PROBLEMS RELATED TO SHORT-TERM M. HAD TO BE SOLVED. CONCENTRATIONS AVERAGED OVER PERIOD OF 3 MONTHS CALCULATED WITH LONG-TERM & SHORT-TERM MODEL COMPARED. DIFFERENCES WERE ACCEPTABLE.

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L I S T I N G   T H E S A U R U S
                                                                                                  PAGE:  001
 NO   DESCRIPTOR                                TOT DEL  D O C U M E N T - N O.
                                                              1      2      3      4      5      6      7      8      9     10
 100 MODEL TYPE                                 105   4
                                                         700001 710002 720006 720007 730003 740006 740007 750004 750006 760003
                                                         760004 680001 710003 710006 710007 720010 720012 730004 730005 740008
                                                         740012 740015 740018 750010 750011 750012 750014 750019 750020 750021
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                                                         730010 730011 740020 740021 740022 740026 750030 750031 750034 750038
                                                         760013 760014      2 700008 710010 710011 730018 730019 730020 730022
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                                                         750056 750058 750059 750060 750061 760017 760018 700009 730021 730023
                                                         740037 740043 740045 750051 750062 770002 710012 760035 750069 750016
                                                         750068
 101 GAUSSIAN MODEL                             120   4
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                                                         760001 690001 710004 710005 720011 730005 730007 730008 740009 740011
                                                         740013 750009 750013 750015 750017 750018 750022 750023 750026 720009
                                                         720017 730014 730015 740027 740028 740030 750025 750039 750040 750041
                                                         700007 730013 730017 740033 740034 740035 750043 750044 750045 750047
                                                         750048 760015 690002 710008 710009 720013 720015 720016 730011 730012
                                                         740023 740025 750027 750028 750029 750033 750034 750036 750037 750038
                                                         760011 760012 750032 750057 760016  10001 700004 740044 740046 750063
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                                                         770006 770007 730001 740002 740016 740024 740032 750005 750046 750065
                                                         760021 760022 760023 760024 760025 760026 760027 760028 760029 760032
                                                         760033 760034 770008 730024 760036 750070
 102 BOX                                          3   0
                                                         750067 770006 760026
 103 GRID                                         1   0
                                                         760026
 104 LAGRANGIAN                                   1   0
                                                         760026
 105 ANALYTICAL                                   1   0
                                                         760026
 106 STATISTICAL                                  3   0
                                                         750065 760026 760030
 110 OTHER                                        3   0
                                                         770004 760026 770003
 200 COMPOUNDS                                    0   0
 201 SULFUR DIOXIDE                              63   2
                                                         720006 730003 740005 750001 750003 750006 720011 720012 730006 740008
                                                         740015 750012 750013 750017 750022 750024 760006 720009 730009 730014
                                                         730015 750040 750042 750047 710008 730012 760011 760012      2 700008
                                                         730018 730020 750053 750054 750055 750056 750060  10001 700004 740044
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                                                         760031 770004 770007 700010 730001 740002 760027 760028 760029 760034
                                                         750069
 202 CARBON MONOXIDE                             26   1
                                                         750004 710004 710005 730005 740012 740018 750021 760009 750025 740034
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L I S T I N G   T H E S A U R U S                                                                                  PAGE: 002

NO   DESCRIPTOR                                    TOT DEL  D O C U M E N T - N O.
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203 NITROGEN OXIDES                                  9   1
                                                            720007 750021 740034 750062 710012 700010 750005 760030
204 ORGANIC GASES                                    4   0
                                                            720008 740004 740034 750062
205 FLUOR COMPOUNDS                                  5   0
                                                            750029 740040 750064 740038 700010
206 PARTICLES                                       14   0
                                                            710007 750022 750023 750024 730014 740031 740041 750050 750052 750055
                                                            750060 700004 760031 700010
207 OXIDANTS                                         6   0
                                                            740034 750034 750038 710011 700009 710012
208 WATER VAPOUR                                     2   1
                                                            750016
209 RADIOACTIVE COMPOUNDS                           12   0
                                                            700003 720003 750007 750033 760014 740036 730021 700010 740032 760021
                                                            760022 760023
210 INERT GASES                                      8   0
                                                            750040 750048 750029 760014 750049 760021 760022 760030
211 HEAVY GASES                                      0   0
300 SCALE                                            0   0
301 LOCAL                                           98   6
                                                            700001 700002 700003 720001 720003 720006 720008 730003 740003 740004
                                                            740007 750004 690001 730004 730007 740008 740009 740011 740012 740018
                                                            750009 750010 750015 750018 750024 750026 720009 730014 740027 740028
                                                            740029 740030 750025 750039 730013 730017 740033 740035 750044 750048
                                                            760015 690002 720016 730011 730012 740025 740026 750027 750028 750029
                                                            750031 750033 750036 760012 710011 730022 740039 740040 740041 750032
                                                            750052 750053 750054 750055 750057 750061 760017 760018  10001 700004
                                                            740037 740043 740045 750062 750066 770005 730001 740002 740024 740032
                                                            760021 760022 760023 760024 760025 760028 760029 760035 760036 750016
                                                            750070 760030
302 URBAN                                           67   1
                                                            710002 720004 730002 740005 750003 760002 760003 760004 760005 760001
                                                            680001 710003 710004 710005 710007 720010 720011 720012 730008 740013
                                                            750013 750017 750020 750021 760009 770001 700005 720005 740042 750043
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                                                            750030 750031 750034 750038      2 700008 710010 730019 750059 740044
                                                            740046 750051 750063 750064 760019 760020 740048 760031 770007 740024
                                                            750005 760027 760032 760033 770008 750068
303 REGIONAL                                        55   4
                                                            710001 720002 720004 740005 740006 750001 750002 750006 730005 750022
                                                            760006 760007 760008 720005 730015 740010 750040 750041 740034 740042
                                                            750042 750047 760015      1 740020 740021 750031 750037 760011 760014
                                                            730018 730020 740017 750049 750050 750056 750058 750060 700069 730021
                                                            770002 740038 750067 770004 740016 750065 760034 770003 730024 750069
                                                            750016
304 LONG DISTANCE                                    7   0
                                                            750011 750012 760010 750042 720014 750031 760013
400 APPLICATION                                      3   0
                                                            740027 700007 750036
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L I S T I N G   T H E S A U R U S                                                                         PAGE: 003

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401 LICENSING PROCEDURE                             29   0
                                                            720008 750002 760005 740001 710007 740015 750009 750024 730014 750025
                                                            750045 750037 730018 740039 750050 750052 750055 750056 700004 740044
                                                            740045 740046 750063 750064 760019 760020 770005 760032 750069
402 STACK HEIGHT DETERMINATION                      10   0
                                                            680001 740011 750015 720009 750044 720016 730012 750057  10001 740044
403 CAUSE ANALYSIS                                   7   0
                                                            720004 750023 740035 750060 750065 760027 760034
404 SCHEDULING OF MEASUREMENTS                       4   0
                                                            760002 760003 750021 740010
405 IN ADDITION TO MEASUREMENTS                      8   0
                                                            750006 760002 760003 710007 740009 750018 740038 760031
406 EPIDEMIOLOGICS                                   0   0
407 FUNDAMENTAL (RESEARCH, DEVELOPMENT)            151   7
                                                            700001 700003 710001 710002 720001 720002 720003 720006 720007 730002
                                                            730003 740003 740004 740005 740006 740007 750001 750002 750004 750006
                                                            760004 760005 760001 680001 690001 710004 710005 720010 720011 720012
                                                            730004 730005 730006 730007 730008 740008 740009 740013 750009 750010
                                                            750011 750012 750013 750017 750019 750020 750026 760006 760007 760008
                                                            760009 770001 720005 720017 730015 740028 740029 740030 750039 750040
                                                            750041 730013 730017 740031 740033 740034 740035 750042 750043 750047
                                                            750048 760015      1 690002 700006 710008 710009 720013 720014 720015
                                                            730011 740020 740021 740023 740025 750027 750028 750029 750031 760013
                                                            760014 700008 710010 710011 730016 730019 730020 730022 740017 740040
                                                            750032 750049 750053 750054 750059 750060 760016 760017 760018 700009
                                                            730021 730023 740037 740043 750051 770002 710012 740048 750066 750067
                                                            770004 770006 770007 730001 740002 740016 740024 740032 750005 760021
                                                            760022 760023 760024 760025 760028 760029 760035 770003 770008 730024
                                                            760036 750068 750070 760030
408 URBAN AND REGIONAL PLANNING                     24   1
                                                            710006 740012 750015 750022 750041 740034 740042 750045 750048 740020
                                                            740026 750030 750033 750034 750038 730020 740017 750062 720018 740038
                                                            740032 750065 730024
409 SUPPLEMENTARY CONTROL                            1   0
                                                            760027
500 PARAMETERS, MODEL CHARACTERISTICS                0   0
501 DISPERSION PARAMETERS                           29   1
                                                            740005 750008 740009 750009 750018 720017 740029 750025 760015      1
                                                            690002 740021 760014 750032 760016 760017 750066 740024 760021 760022
                                                            760023 760024 760025 760027 760029 760032 760033 760036
502 TURBULENCE CLASSES                              35   0
                                                            700003 720001 750008 750009 750013 720005 720017 740027 740028 750040
                                                            750041 730013 740033 760015 690002 700006 720013 730012 740025 750029
                                                            700008 710011 740019 750032 750052 750053 730023 720018 740047 750066
                                                            760021 760022 760023 760032 760036
503 PLUME RISE                                      27   2
                                                            740005 740007 690001 730004 740011 750009 720005 740027 740030 750044
                                                            760015 690002 720016 750035 750036 730016 750057 740038 740047 750066
                                                            740024 760028 760029 760036 750016
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LISTING  THESAURUS                                                                                         PAGE:  004

NO  DESCRIPTOR                                  TOT DEL  DOCUMENT-NO.
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504 TOPOGRAPHY                                   30   0
                                                         750006 740001 760001 690001 710004 710005 710007 730007 740011 740015
                                                         750017 720005 750041 750044 760015 720013 720015 760014 750049 750050
                                                          10001 740043 740045 740046 740032 760027 760028 760029 760036 750070
505 ROUGHNESS OF GROUND                          10   0
                                                         710004 710005 720005 750040 760015 750029 750050 760021 760022 760023
506 LOW WIND SPEED                                7   0
                                                         690001 720012 750013 750017 760014 750067 770006
507 MIXING HEIGHT / INVERSION HEIGHT             29   1
                                                         760001 690001 710003 740008 740015 750013 720005 720017 700007 730017
                                                         740035 760015 690002 700006 700008 740019 750049 760017 730023 750066
                                                         750067 770004 740024 760025 760027 760028 760029 760036
510 (TO BE DEFINED)                               0   0
600 TRANSFORMATION AND REMOVAL PROCESSES          0   0
610 CHEMICAL TRANSFORMATIONS                     13   1
                                                         730003 720005 750042 750034 750038 750049 730023 710012 750067 770004
                                                         740024 760036
620 PHYSICAL TRANSFORMATIONS                      1   0
                                                         760036
621 SEDIMENTATION / FALL OUT                     10   1
                                                         700003 740003 750012 750026 720005 740031 760014 770004 740024
622 WASH OUT                                     14   0
                                                         700003 720006 730003 740004 740007 730006 720005 730009 740014 740021
                                                         750031 760014 740036 770004
623 ADSORPTION                                    2   0
                                                         700003 770004
624 RADIOACTIVE DECAY                             1   0
                                                         720003
630 PHASE TRANSITIONS                             0   0
700 SENSITIVITY ANALYSIS                          0   0
710 OCCASIONAL VARIATION OF PARAMETERS           17   0
                                                         750003 730008 740009 740013 750018 730014 740030 740020 740025 730020
                                                         740040 730023 750051 750064 740032 760024 760032
720 SYSTEMATICAL VARIATION OF PARAMETERS         11   0
                                                         740004 740007 760005 750019 740010 740033 760015 710008 730012 760017
                                                         760036
800 MODEL INPUT.                                  0   0
810 SOURCE DIMENSION                              1   0
                                                         760036
811 POINT SOURCE                                 82   5
                                                         700001 700002 710001 720006 720008 730002 730003 740003 740004 740007
                                                         750002 760005 690001 710007 730004 740008 740009 740011 750009 750010
                                                         750012 750026 720009 730016 740027 740028 740030 750025 750041 700007
                                                         730013 730017 740033 740034 740035 750044 750047      1 720016 730012
                                                         740021 740025 750027 750028 750029 750033 750035 750036 760011 750053
                                                         750054 750057 750059  10001 740044 740048 770005 770006 730001 740002
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L I S T I N G   T H E S A U R U S                                                                        PAGE:  005

NO   DESCRIPTOR                                  TOT DEL  D O C U M E N T - N O.
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812 LINE SOURCE                                   25   1
                                                          710001 720001 720002 720007 750002 750004 760005 730004 730005 750010
                                                          740029 700007 730017 740033 740035 750048 710011 740041 750061 760017
                                                          760018 750066 770005 760035
813 AREA SOURCE                                   33   4
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                                                          740034 740035 750048 760011 700008 740041 750059 750066 770005 770006
                                                          740016 740024 750005 750046 760032 760033 760034 770008 750068
814 VOLUME SOURCE                                  1   0
                                                          700008
820 SOURCE TYPE                                    0   0
821 MOBILE SOURCE                                  9   0
                                                          730004 750010 760009 750039 740033 740034 750031 750034 750038
822 STATIONARY SOURCE                             55   0
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                                                          740025 750027 750028 750029 750031 750033 750035 750036 750053 750054
                                                          750057  10001 740044 740038 740047 740032 760021 760022 760023 760027
                                                          760028 760029 770008 750070 760030
830 SOURCE TIME DEPENDENCE                         0   0
831 DISCONTINUOUS SOURCE                          17   0
                                                          700002 700003 710001 720008 750003 690001 730004 740009 750010 750018
                                                          740029 740033 760015      1 740021 760014 760016
832 CONTINUOUS SOURCE                             47   2
                                                          700001 700002 700003 710001 720006 720008 740003 750003 760005 740011
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                                                          710008 720016 730012 740025 750027 750028 750029 750035 750036 760014
                                                          750057 740044 740038 750067 730001 740002 740032 760021 760022 760023
                                                          760028 760029 760032 750070 760030
840 METEOROLOGICAL STATISTICS                      8   0
                                                          750003 750006 730004 750010 720005 750047 730020 740037
841 1-DIMENSIONAL METEOROLOGICAL STATISTICS        0   0
842 2-DIMENSIONAL METEOROLOGICAL STATISTICS        2   0
                                                          750001 750057
843 3-DIMENSIONAL METEOROLOGICAL STATISTICS       24   0
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                                                          760015 700006 710009 720016 740023 750027 750028 700004 720018 770005
                                                          770007 740032 760036 750070
850 WIND VARIANCE IN SPACE                        15   0
                                                          750006 740001 720012 730007 750011 750012 750020      1 760014 750049
                                                          750052 750058 760017 730023 740043
851 WIND VARIANCE WITH HEIGHT                      7   0
                                                          710004 720005 740029 740021 760013 760016 730021
852 WIND VARIANCE WITH DISTANCE                    0   0
900 MODEL OUTPUT                                   1   0
                                                          750011
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  L I S T I N G   T H E S A U R U S                                                                    PAGE:  006

   NO   DESCRIPTOR                                     TOT DEL  D O C U M E N T - N O.
                                                                   1      2      3      4      5      6      7      8      9      10

  910 SHORT TERM                                        42   2
                                                                700003 720003 750003 680001 690001 710004 740008 740009 750012 750018
                                                                750021 760008 760010 770001 730014 740027 750039 700007 750048 700006
                                                                710008 750029 750033 700008 710011 740039 750053 750061 760018 770002
                                                                740048 750067 770006 740016 740024 760027 760028 760029 770068 760030
  911 MEAN VALUES                                       12   2
                                                                750004 720011 740015 750012 760007 740041 700004 740038 740016 750005
  912 MAXIMUM VALUES                                    10   1
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  913 REAL TIME                                          0   0
  920 LONG TERM                                         37   1
                                                                700003 730002 740005 750003 750006 760003 760001 730008 740013 760006
                                                                760007 730014 740010 750039 740033 690002 710008 720016 750031 750033
                                                                750036 750057 740047 740048 770006 740016 740024 740032 750005 750046
                                                                760027 760029 760032 760033 760034 770008
  921 CONCENTRATION FIELD                                3   0
                                                                750009 760033 760034
  922 FREQUENCY DISTRIBUTIONS                           44   5
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                                                                730001 740002 740016 740024 750005 760032 770008 760036 750070
  923 CHARACTERISTIC VALUES                             41   3
                                                                700001 720008 740005 750001 680001 710007 740015 750015 750017 750022
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                                                                750047 760015 740025 750037 730020 740041 750055  10001 700004 740046
                                                                750062 750063 750064 760019 760020 770007 740016 750005
 1000 FIELD EXPERIMENTS                                  0   0
 1001 VALIDATION                                        73   5
                                                                700002 710002 720006 720007 730003 750001 750003 750006 760001 710003
                                                                710005 720011 720012 730005 740017 740018 750012 750013 750017 750019
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                                                                740017 740041 750049 750053 750054 700009 730021 730023 740037 740044
                                                                740045 750051 750063 760019 770002 710012 760020 750067 760031 730001
                                                                740002 740016 750005 760028 760029 760032 760034 730024
 1002 CALIBRATION                                       11   1
                                                                740007 750001 710007 730005 750022 740020 750029 750037 700009 730024
 1003 PARAMETER DETERMINATION                           12   0
                                                                740004 710005 740009 740017 750018 750027 750028 740017 760021 760022
                                                                760023 760032
 1004 OTHERS                                            17   1
                                                                720006 730003 740007 760003 730005 750012 720013 750035 750050 750052
                                                                750053 750060 740037 740038 700010 750016
 1100 QUALIFICATIONS                                     0   0
 1110 ADVANTAGES                                        27   1
                                                                710002 740004 740005 740006 740007 750001 750004 760002 760065 760001
                                                                680001 740017 760009 720017 740014 740042      1 730011 750038 740017
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L I S T I N G   T H E S A U R U S                                                                         PAGE:  007

NO   DESCRIPTOR                                 TOT DEL  D O C U M E N T - N O.
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1120 LIMITS OF APPLICABILITY                     21   2
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                                                         750038 750066 730001 740002 740024 760025 760032 770003 770008
1200 DOCUMENTATION                                4   0
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1201 PROGRAM DESCRIPTION                         26   3
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                                                         760033 770008 750068
1202 PROGRAM LISTING                             13   1
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                                                         770008 750068
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AUTHOR              TOT   DEL   D O C U M E N T - N O .
                                  1      2      3      4      5      6      7      8      9     10     11     12     13


AHRENS                1     0   740001
ARONDS                2     0   730001 740002
ATWATER               1     0   710010
BADGLEY               1     0   730011
BEATON                2     0   720001 720002
BERGER                1     0   700001

BJORKLUND             4     1   720005 730004 750010
BOWERS                2     0   760027 760028
BOWNE                 1     0   710001
BRADWAY               1     0   740037
BRAIG                 5     0   740005 750001 760001 750044 750045
BRENK                 1     0   740032
BRESSER               5     0   720003 720008 760015 760036 750070
BRIGGS                3     0   720004 750002 750004
BRYAN                 1     0   700009
BULTYNCK              1     0   700003
BURRISS               1     0   720004
BUSSE                 1     0   730002
CANTONI               1     0   750003
CAVALLARD             3     0   750003 760002 760003
CHRIST                1     0   760001
CHRISTENSEN           1     0   760004
CLAYSON               4     0   740006 750002 750004 760005
COHEN                 1     0   710006
```

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AUTHOR              TOT   DEL   D O C U M E N T - N O .
                                  1      2      3      4      5      6      7      8      9     10     11     12     13
CORNETT               1     0   730021
CRAMER                5     0   750006 720005 760027 760028 760029
CROKE                 5     3   710002 700008
DABBERDT              2     0   710004 720013
DABBERT               1     0   710005

DANA                  4     0   720006 730003 730009 740014
DARLING               1     0   720007
DE BAERE              5     0   760011 760012 750064 760019 760020
DE MAERE              1     0   750064
DEIMEL                1     0   700010
DICKERSON             1     0   750007
DOCKERY               1     0   740017
DOVLAND               1     0   750008
DREYHAUPT             2     0   720008 750009
DUMBAULD              4     2   730004 750010
EGAN                  2     0   730005 740010
ELIASSEN              3     0   730006 750011 750012
ENGELDAL              2     0   760033 760034
EPSTEIN               1     0   730005
ERMINI CANTONI        1     0   750013
ESCHBACH              1     0   720003
ET AL                 1     0   760031
ET ALII               1     0   740034
FAUTH                 1     0   740017
FENSKE                1     0   750014
FETT                  1     0   740008
```

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AUTHOR               TOT   DEL   D O C U M E N T - N O .

                                   1      2      3      4      5      6      7      8      9     10     11     12     13
FINZI                 5     0   760006 760007 760008 770001 770002
FORTAK                6     0   680001 690001 720010 750015 750016 750017
FROEMMING             2     0   740009 750018
FRONZA                4     0   760006 760007 760008 770001
GADDO                 1     0   760009
GAERTNER              2     0   740007 740010
GEARY                 1     0   750006
GIEBEL                4     0   740047 750067 770004 760030
GOTAAS                1     0   740011
GOUMANS               1     0   720011
GRANT                 1     0   750049
GRIMM                 1     0   740023
GRONSKEI              5     0   710003 720012 750019 750020 750021
GROUP OF SCK/CEN      5     0    10001 740044 740045 740046 750063
GUALDI                3     0   760002 760003 750013
GULDBERG              4     0   740012 750022 740039 750060
GUTHOF                1     0   700010
GUTSCHE               5     0   730007 730008 740013 750017 690002
HALES                 4     0   720006 730003 730009 740014
HAMBURG.              4     0   740015 750023 750024 700004
HANNA                 1     0   700005
HECHT                 1     0   730022
HEGER                 1     0   750070
HERRMANN              1     0   760010
HOESCHELE             1     0   750025
HORST                 1     0   750026
HUEBSCHMANN           1     0   760021
```

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AUTHOR                TOT  DEL  D O C U M E N T - N O .
                                   1      2      3      4      5      6      7      8      9     10     11     12     13
HUISMAN                 1    0  740016
INGRAM                  1    0  740017
JACOBS                  1    0  730019
JOHNSON                 3    1  710004 710005
KEDDIE                  1    0  760031
KELLNER                 1    0  740038
KEMERER                 1    0  750022
KENNEDY                 1    0  710006
KIRSCH                  1    0  740018
KLEINE COMMISSIE        1    0  760032
KLUG                    1    0  760010
KNECHTEL                1    0  710007
KNOX                    1    0  740021
KOCH                    2    0  710008 750069
KOKIN                   2    0  730010 730023
KOLB                    3    0  750027 750028 740019
KRETZSCHMAR             4    0  760011 760012 760019 760020
KROCH                   1    0  740020
KROPP                   3    0  750009 760015 760036
KUELSKE                 3    0  740047 750066 770005
KURZ                    1    0  760013
LAMB                    1    0  730011

LANCE                   3    0       1 740021 760014
LASEUR                  1    0  750029
LEHMANN                 2    0  750030 750031
LENSCHOW                2    0  730008 740013
```

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AUTHOR            TOT   DEL   D O C U M E N T - N O .
                               1      2      3      4      5      6      7      8      9     10     11     12     13
LESUIS              1     0  740048
LIECHTI             2     0  770006 770007
LUDWIG              5     0  700006 720013 720015 730012 740022
MACCRACKEN          2     0  720014 750049
MALET               1     0  700003
MANCUSO             1     0  720015
MANIER              4     0  710009 720016 740023 750057
MARTIN              1     0  750050
MARZIANO            2     0       2 750051
MASON               1     0  740018
MATH. MODELLING     5     0   10001 740044 740045 740046 750063
MCCORMICK           1     0  690002
MCLAREN             1     0  750052
MELLI               2     0  750040 760016
MICHELMANN          3     0  740005 750001 720009
MILLS               3     0  750034 750053 750054
MOLENKAMP           1     0  740036
MOON                1     0  700006
MORGENSTERN         3     0  730018 750055 750056
MUELLER.            1     0  750065
MULLER              1     0  740048
NESTER              1     0  760022
NIEUWENDIJK         2     0  760033 770008
NIEUWSTADT          8     1  750046 740024 750033 750032 740025 760034 770008
NN                  6     1  750061 740003 740004 720018 740042
ORPHAN              1     0  750007
PANDOLFO            2     0  710010 730019
```

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AUTHOR          TOT   DEL   DOCUMENT-NO.
                              1      2      3      4      5      6      7      8      9     10     11     12     13
PASQUILL          1     0   760025
PATEL             1     0   730020
PATTERSON         4     0   740026 750034 750038 740037
PEARSON           1     0   750014
PELTON            1     0   740041
POODT             1     0   750029
PORTER            3     0   750035 750036 750037
PRAHM             1     0   760004
PRCHASKA          2     0   740028 730013
RAMPE             1     0   740043
RANDERSON         1     0   730021
RANZIERI          2     0   720001 720002
RECORD            3     0   740026 750038 750053
REUTER            5     0   720017 740027 740028 730013 740019
ROBERTS           4     2   710002 700008
ROBINSON          1     0   710001

ROTE              3     0   750039 730022 760026
RUANE             1     0   730014
RUDOLPH           1     0   740038
RUNCA             8     1   730015 740029 750040 750047 760017 760018 760035
SALTBONES         2     0   750011 750012
SAMBOL            1     0   740040
SARDEI            3     1   740029 760035
SHERMAN           1     0   750058
SHIEH             2     0   750059 750068
SHIR              2     0   750059 750068
```

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AUTHOR               TOT   DEL   D O C U M E N T - N O .
                                     1      2      3      4      5      6      7      8      9     10     11     12     13
SIEGEL                 3     0   740039 750060 750062
SIVERTSEN              2     0   740030 750041
SLINN                  1     0   740031
SMITH                  3     0   750042 710011 740040
STERN                  2     0   750043 750054
STROTT                 2     0   750044 750045
SUTFRA                 2     0        2 750051
THAYER                 2     0   710008 740041
THOMAS                 2     0   760021 760022
THOMPSON               1     0   750048
TIGGELAAR              1     0   740033
TRAMPF .               1     0   730016
TURNER                 1     0   700007
VAN BUIJTENEN          1     0   700002
VAN COOTEN             1     0   750005
VAN DER WILT           2     0   730017 740035
VEIGELE                2     0   760005 740034
VERHEUL                1     0   740016
VERMAAS                1     0   750046
VOGT                   2     0   740032 760023
VON FALSER             1     0   720009
WANCEN                 1     0   750039
WAYNE                  4     0   730010 700009 730023 710012
WEBER                  1     0   760024
WEISBURD               1     0   710012
WILLIS                 1     0   730024
WILTSEE                1     0   750062
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AUTHOR              TOT   DEL   D O C U M E N T - N O .
                                  1      2      3      4      5      6      7      8      9     10     11     12     13

WIPPERMANN            1     0  770003
WOOD                  1     0  750037

ZANNETTI              3     0  730015 750047 770002
ZIMMERMAN             2     0  730002 750048
```

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YEAR                TOT  DEL   D O C U M E N T - N O .
                                  1      2      3      4      5      6      7      8      9     10     11     12     13
XXXX                  4    1      1      2  10001
1937                  1    0 730005
1947                  1    1
1968                  1    0 680001
1969                  2    0 690001 690002
1970                 12    2 700005 700007 700008 700001 700002 700003 700009 700010 700004 700006
1971                 16    4 710003 710009 710010 710011 710001 710002 710006 710012 710004 710005 710007 710008
1972                 25    7 720010 720015 720016 720001 720002 720003 720004 720005 720006 720007 720008 720018 720009
                             720011 720012 720013 720014 720017
1973                 33   10 730007 730008 730012 730016 730018 730019 730020 730022 730001 730002 730003 730021 730023
                             730024 730015 730004 730006 730009 730010 730011 730013 730014 730017
1974                 69   21 740008 740013 740014 740033 740035 740022 740024 740025 740036 740039 740040 740041 740001
                             740002 740003 740004 740005 740006 740007 740037 740043 740044 740046 740038 740047 740048
                             740029 740032 740009 740010 740011 740012 740015 740016 740017 740018 740019 740020 740021
                             740023 740026 740027 740028 740030 740031 740034 740042 740045
1975                 97   29 750009 750010 750013 750015 750016 750017 750018 750043 750046 750029 750033 750032 750050
                             750052 750053 750054 750055 750056 750057 750058 750059 750060 750061 750001 750002 750003
                             750004 750005 750006 750007 750008 750051 750062 750063 750064 750066 750067 750047 750065
                             750011 750012 750014 750019 750020 750021 750022 750023 750024 750025 750026 750027 750028
                             750030 750031 750034 750035 750036 750037 750038 750039 750041 750042 750044 750045 750048
                             750049 750068 750070
1976                 49   12 760006 760007 760013 760001 760002 760003 760004 760005 760031 760040 760016 760017 760018
                             760021 760022 760023 760024 760025 760026 760027 760028 760029 760032 760033 760034 760035
                             760008 760009 760010 760011 760012 760014 760015 760019 760020 760036 760030
1977                  9    1 770002 770004 770005 770006 770007 770001 770003 770008
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